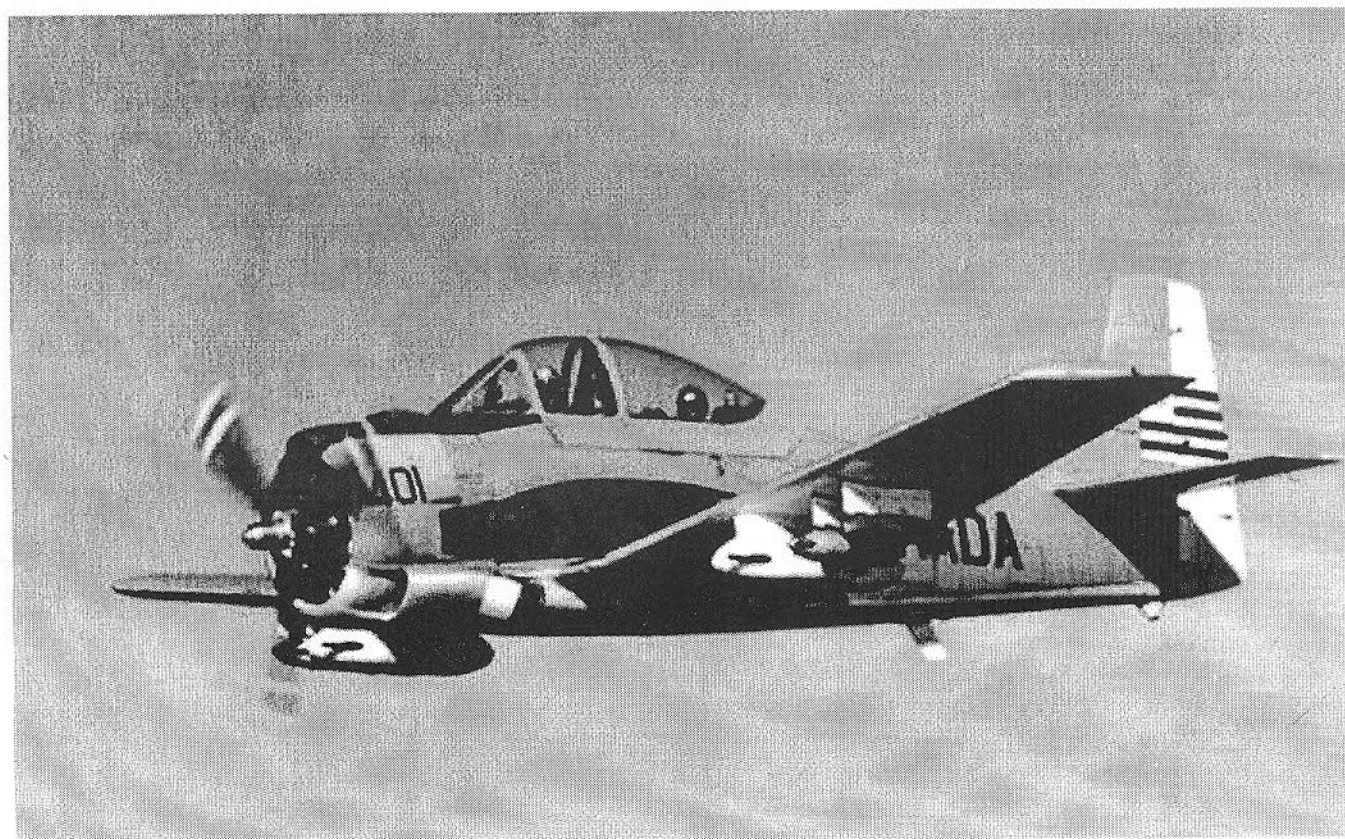


small air forces observer

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July 2007

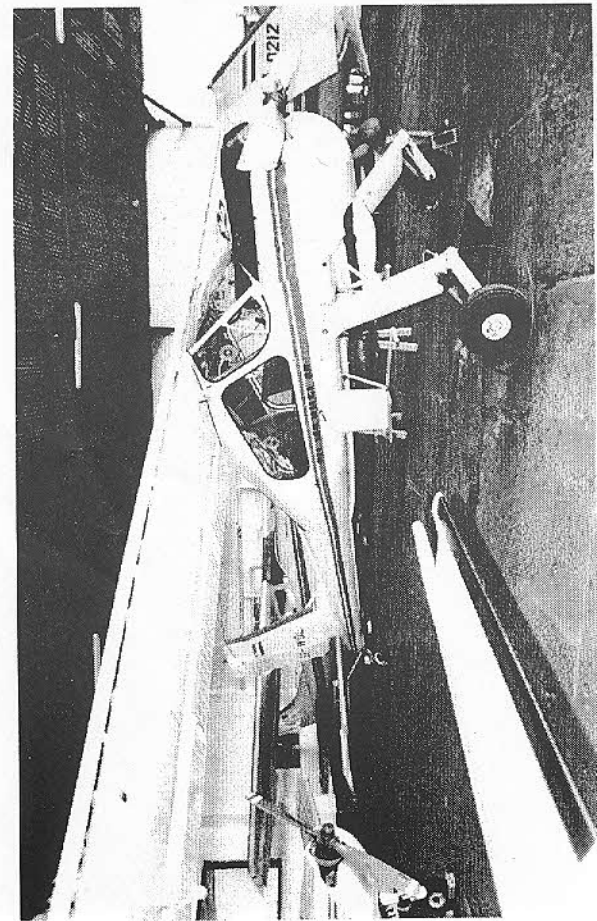
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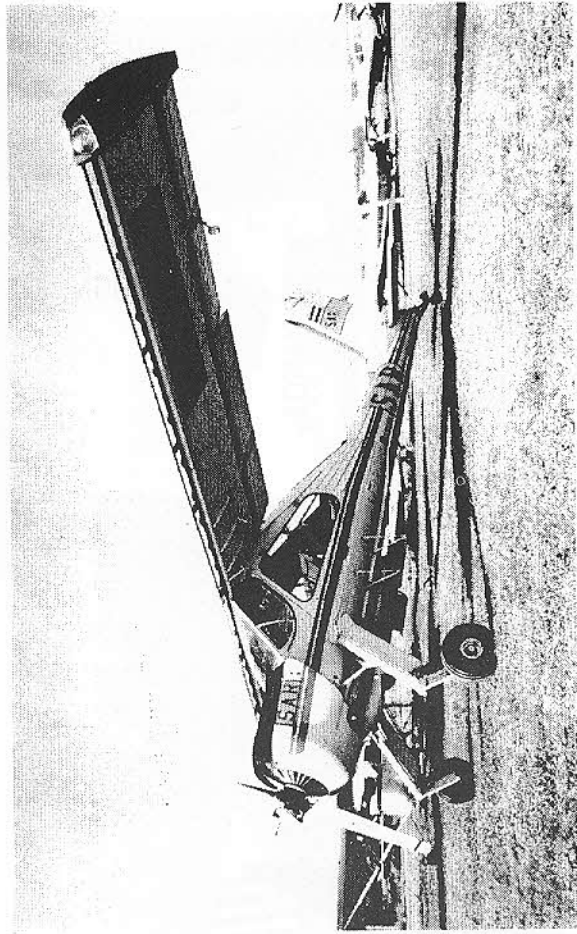
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Indonesian Squadrons
Austrian Yak-18

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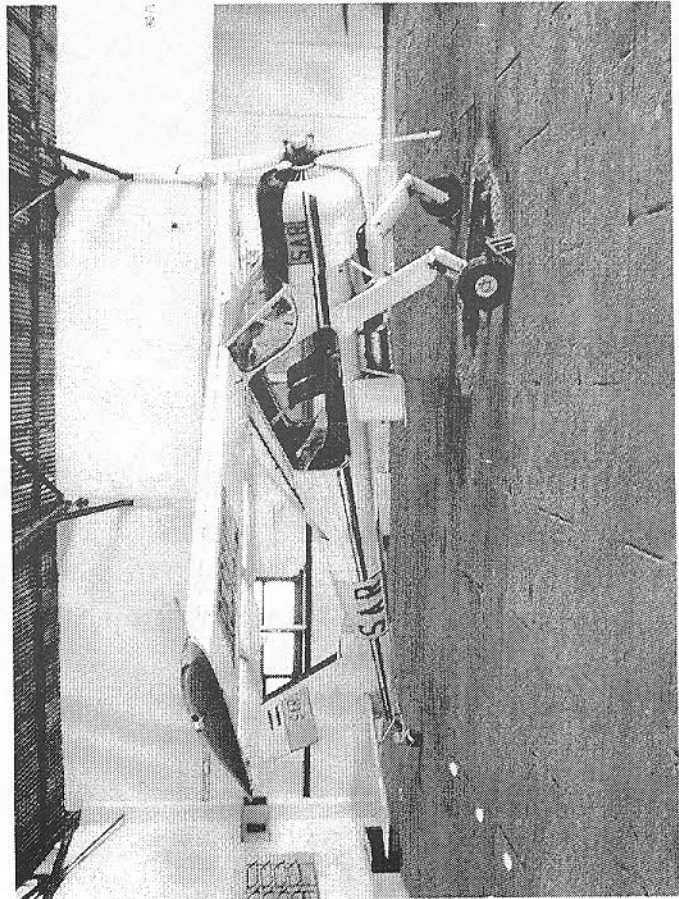
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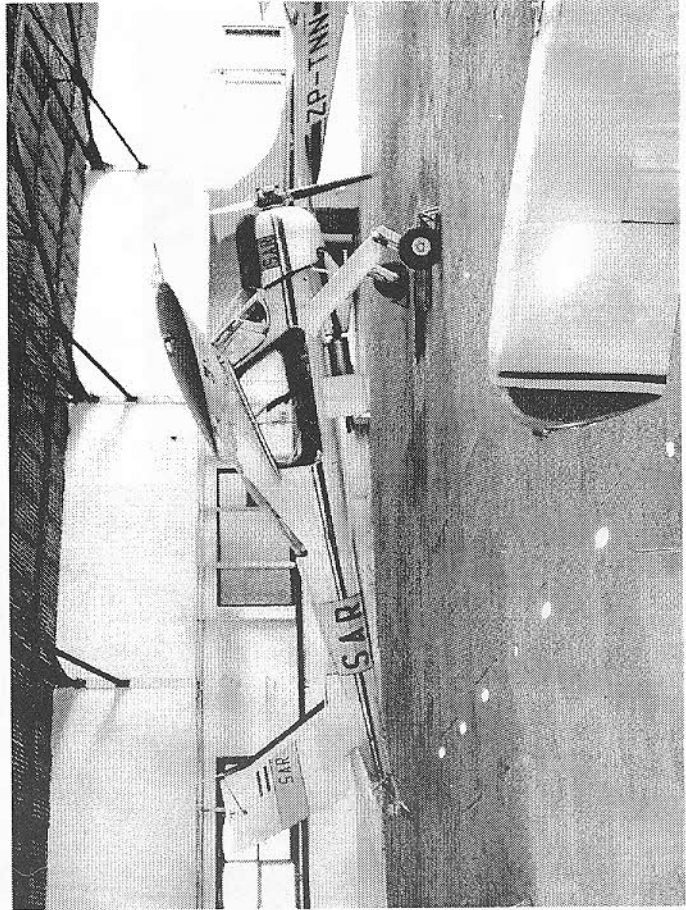
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SMALL AIR FORCES OBSERVER

The Journal of the Small Air Forces Clearing House

E-Mail: safo@redshift.com

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SAFO EDITORIAL POLICY: The purpose of the Small Air Forces Clearinghouse (SAFCH) is to "promote interest in the history and modeling of the aircraft of the smaller countries". In support of this goal, the SAFCH encourages international cooperation in researching aviation history, both military and civil, from all periods of time, and for all the smaller countries. The results of this research are published in our quarterly journal, the Small Air Forces Observer (SAFO). Articles published in SAFO can be reprinted provided permission of the author is obtained and the SAFO is identified in the reprint.

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SAFCH WEB SITES: Our new website <www.safch.org> is just about ready to take off. On this site you will be able to see, in color, those photos that had to be printed in SAFO in black and white. You will also be able to chat with other members. Also, see our Small Air Force IPMS/USA Special Interest Group (SIG) web site at <<http://hometown.aol.com/rotorfrank/SmallAirForce.html>> for photos of models by the members.

COVER PHOTO: Unfortunately, the cover photos of the Uruguayan Navy T-28F Fennec is not an introduction to an article on this aircraft. However, it does serve to introduce a two pages of photos of Uruguayan aircraft (pages 35-36): 1. Air Force Beech AT-11. (2) Navy Grumman F4F Hellcat. (3) Navy Vought O2U Kingfisher. (4) Navy Martin PBM (Ed: It doesn't show the marking, but a dramatic shot nevertheless.) (5) Navy Grumman S-2 Trackers. (6) Navy North American T-6 Texan. (7) Air Force (?) Hiller '623' (?). (8) Civil Junkers Ju-52/3m 'CX-ABA'.

GUEST EDITORIAL: It is sad to report the demise of that great Italian magazine *Aero Fan*. After 100 issues, Giorgio Apostolo has decided to 'turn off the presses'. His farewell letter explains the reasons for this decision. "Goodbyes are always difficult, particularly if they are at the end of a relationship with a readership which has almost become affectionate: this significant condition is confirmed in the origins of our publication, which over the years has conserved its essential characteristics, those of an amateur periodical.

The mosaic we have laid of Italian aviation history, its machines and personalities, and which we have only begun to cover, must end here, after more than a quarter of a century, even though there

are still many pieces lacking from the picture.

In this recent period we have striven, not without some difficulty, following the first interruption in the early Nineties, to offer a dignified product, not the usual recycling of already covered subjects (which too often, it could be said, arrive in the hands of enthusiasts). We have recognized, however, that the aviation world (and also the aviation publishing sector) has experienced radical changes: it has been turned upside-down by information technology, PC-based flight simulators, and the crisis in traditional scale modeling with the advent of pre-assembled and beautifully finished models: no less significant and influential is the progressive aging of aviation historians and the seemingly lack of new readers and researchers.

The moment has thus arrived for me to call a halt, but I do not want to dwell upon what contribution *AeroFan* has made. My heartfelt thanks go out to those who have followed my efforts for many years, and to my collaborators who, voluntarily, have contributed to our general knowledge of the subject, and allowed us to participate in their research."

[Ed: We will miss *AeroFan*, one of the few aviation publications left that cover the aviation history of its native country. Good luck and good health to you, Giorgio.]

EDITORIAL: Members in the US are well aware that the cost of a 1st Class letter in the US has recently gone up from \$0.39 to \$0.41 for the first ounce. A two cent increase is hardly noticeable. However, at the same time, the US Postal Service (USPS) has made some other changes that drastically affect the SAFO. Most notably is the edict that all international mail must now go airmail. While this will speed up delivery to international members, it also increased the cost of sending each issue of SAFO over seas from about \$1.00 (sea mail) to \$3.60 airmail.

I am sure that when I go to the post office to mail this issue, there will be unpleasant surprises I have yet to hear about. (My local post office does not know what to expect and the USPS's website is impenetrable. I suspect that all US mailing will have to go 1st class.)

The net result of all this is that I've been forced to increase the subscription rate for both US and international members: The US rate is now \$20.00 and the international rate is \$24.00. Several members and I are working on several initiatives to ameliorate this increase. If some of these initiatives come to fruition and the cost of printing and mailing SAFO can be reduced, all members will receive a commemorative credit.

-wants&disposals- wants&disposals- wants&disposals- wants&disposals- wants&disposals- wants&disposals- wants&disposals-

"I am interested in exchanging photos of aircraft and helicopters with Special Markings."

Ric Karbowski (SAFCH #993), 21708 Tenny, Dearborn, MI 48124-2937, USA. E-mail: rkarbows@hotmail.com. [Ed: This is a

correction to the e-mail address that appeared in this column in the last issue.]

AUSTRALIA

AUSTRALIAN PLASTIC MODELLERS ASSOCIATION (APMA, PO Box 51, Strathfield, NSW 2135; 4 issues airmail A\$40. International payment is best handled via Paypal at iansharyn@bigpond.com.au). Web Site: www.apma.org.

2-07 (28 pages) "Air Operations over Yugoslavia 1944-45" 6 pages including 'Division of Yugoslavia 1942' map and tables of orders-of-battle for Allied and Axis ground and air forces. "Italian Fighters over the Balkans 1944-45" 5 pages including 2 photos and 8 side-view drawings [Luftwaffe: MC.202 (2) & CR-42 (3); Croatian G.50; Yugoslav G.50, and Co-Belligerent MC.205]. Other articles include: "Czech Legion Armoured Train 1918", "The BT-5 in the Spanish Civil War", "FFI Armoured Cars at Rochelle 1944", and "Wallace and Gromet's Pickup Truck".

AUSTRIA

ÖFH NACHRICHTEN (Oesterreichische Flugzug Historiker, Pfennigeldf 18/2/14, A-1160 Wien. Write for free sample.)

1/07 (40 pages) "Leichtflugzeug GMG I in Österreich 1927-28" 3 pages including 2 photos and a small 3-view drawing.

BELGIUM

KIT (IPMS Belgium, c/o Michel Willot, dreve de Champagne 14, B-1190 Bruxelles; French & Flemish. International Postal Money Order for \$30 for 4 issues. [Editor's note: Each major article in KIT now consists of two parts: (1) A study of the full-scale subject with text, photos, and color drawings. (2) A review of a kit with photos of the completed model. This is a format that should be considered by other model magazines.]

#142 2/2006 (52 pages) "Spitfire LF IXc Cogea" 6 pages on civil Spitfire 'OO-ARE' & '100' including 10 photos full-scale subject, 2 side-view drawings, and 9 photos of the finished 1/48-scale IMC model. "Belgium Hawker Hunter Mk.6" 8th Wing, 22nd Squadron, 1961" 6 pages including 6 photos of the full-scale subject, a 2-page 4-view color drawing, and 7 photos of the completed 1/72-scale Revell kit. "More on UN Sabres in Congo" 2 pages including 3 side-view drawings (UN, Iranian, & Ethiopian). "Spitfire LF 16e: 349 (Be) Sqn" 4 pages including 4 photos of the full-scale subject and 6 photos of the completed 1/72-scale Heller kit. #143 3/2006 (52 pages) "Sabre in Pakistan" 11 pages including 3 photos of the full-scale subject, 4 drawings of the different Sabre wings, and 8 photos of the completed 1/48-scale Hasegawa kit "Spitfire LF 16e: 349 (Be) Sqn: The never-ending story" 2 pages including 3 photos of the full-scale subject. "C-119C Flying Boxcar" 3 pages with one photos of the full-scale subject and 5 photos of the completed 1/72 Italeri kit in Belgian AF markings.

#144 4/2006 (52 pages) "Crash au Tibet" 5 pages on the crash of DC-3 'VT-DRO' on a snow-covered mountain including 9 photos on building the diorama. "Belgium Mosquito NF.30" 17 pages including 9 pages with 73 'Walk Around' photos of the Mosquito NF.30 'MB24' in the Brussels Air Museum, a side-view drawing of 'NT362' ('MB14' in its original RAF markings), a 2-page color 4-view drawing of 'MB14', and 9 photos of the completed 1/72-scale Tamiya kit. "Back on Display: Nieuport 23 in the Brussels Air Museum" one page including 3 photos.

#145 1/2007 (52 pages) "Mitsubishi G4M1 Betty" 5 pages on building the 1/48-scale Tamiya kit including 11 photos of the model in various stages of construction. "Belgium Morane Saulnier MS.230 & 236" 17 pages including 7 photos of the full-scale subject, list of all Belgian AF MS.230/236, 5 pages with 55 'Walk Around' photos of the MS.230 in the Brussels Air Museum, 2 pages of sketch from the instruction manual, 6 color side-view drawings, and 8 photos of the completed 1/72-scale Heller model. "Brewster Buffalo version VL Humu le Buffalo a la sauce finlandaise" 2 pages including 5 photos of the full-scale Humu (2 in color, one of which is the best color photo I've seen of the Buffalo cockpit) and 3 photos of the completed 1/72-scale Hasegawa kit with PH Model parts.

CANADA

RANDOM THOUGHTS (IPMS Canada, Box 626, Stn. B, Ottawa, Ontario K1P 5R7; 6 issues for US \$24.00 in US \$26.00 elsewhere).

30/2 (24 pages) "Club Build 1/72 FAA Corsair IV" one page on building the Academy kit including one photo of the complete model. "A de Havilland Comet in 1/72 Scale" 2 pages on building the Welsh Models kit including 2 photos of the complete model. "Edmonton Special" Converting Academy's P-51D to a Mustang IV" 3 pages including 5 photos of the completed model. "Converting a 1/32 Spitfire Vb to a Seafire Mk.IIc" 4 pages including 10 photos of the model.

FINLAND

IPMS-MALLARI (IPMS Finland, PL 798, 00101 Helsinki 10; 6 issues \$20.00, no check accepted due to the high redemption costs). Text in Finnish.

1/2007 #165 (16 pages) "Bf 109 G-2 MT-201" 3 pages on building the 1/48-scale Hasegawa kit in Finnish markings including 8 photos. "Mallarin" a 2-page listing of the contents of all issues of IPMS-Mallari from #1 to #163. "WEEAC Navigator" 2 pages on building the 1/48-scale Academy MiG-21MF kit I Soviet markings including 7 photos.

FRANCE

AIR MAGAZINE, TMA, 75 rue Claude Decaen, 75012 Paris, France. Six issues a year. 35 euros in France, 41 euros in Europe, and 50 euros for the rest of the world. Payment by Visa, Eurocard, Mastercard. E-mail: airmagazine@wanadoo.fr.

No. 36 Fevrier/Mars 2007 (72 pages) "L'Avia B-33 (2e partie)" 13 pages including 14 photos, 6 color side-view drawings, and 6 pages of sketches from the maintenance manual. "Patrouilles en mer d'Okhotsk" 8 pages on Japanese aircraft operating out of the northern island of Sakhaline including 17 photos and 3 color side-view drawings [Ki-55 Ida & Ki-48 Lily (2)] [Ed: I haven't seen any model dioramas of snow-covered Japanese a/c. Here's your chance to do something unique.] "La première soucoupe volante faillit être française" 4 pages on a saucer-shaped lighter-than-air contraption including 7 photos and a page of multi-view scale drawings. [Ed: Here is a definite challenge to the modeler who is looking for something a 'little' different.] "Le Northrop 8A-2 en Argentine" 17 pages including 35 photos, 4 color 3-view drawings, 3 color side-view drawings, and a table listing the history of the individual aircraft. [Ed: This is a great complement to the book on the same subject from Argentina and available from the SAFCH Sales Service.] "Le Ki-115 Tsurugi" 10 pages including 7 contemporary b&w photos, 13 color photos of a museum aircraft,

1/72-scale multi-view scale drawings, one color 2-view drawings, and 2 color side-view drawings.

AVIONS: Toute l'Aeronautique et son Histoire (Lela Presse, 29 rue Paul Bert, 62230 Outreau, France. 50 euro for 6 issues).

#157 Mai/Juin 2007 (72 pages) "Les combat des '9 contre 27': 12 pages on the 6 November 1939 combat between 9 French Curtiss Hawks vs. 27 Bf 109; includes 25 photos, a color cover painting, a 3-view color drawings of H-75A-1, and 4 color side-view drawings [Curtiss H-75 (1) & Bf 109D (3)]. [Ed: One of the photos would make the inspiration for a prize-winning diorama. It shows 4 Bf 109 and a W 34 with a fuel trailer and its tractor, a sentry box, and tents dispersed within a copse of trees. The aircraft all have their wing and fuselage insignia covered with camouflage netting. In the background are a Ju 87 and a Ju 52, but including these would require expanding the diorama base.] "Giuseppe 'Bepi' Biron; Le doyen de la Regia Aeronautica" 9 pages on an Italian who fought in Ethiopia, Spain, Russia, North Africa, and Italy including 22 photos (CR 20, Ro 37, CR 32, MC 200, Re 2001, Re 2005, C 202, MC 205, & F-105S). "Potez 56: des Potez 56 pour l'Armée de l'Air" 9 pages on an elegant twin-engine aircraft made comical by adding a 'bathtub' for the bomber trainer or an offset 'penthouse' for the pilot trainer; includes 13 photos, 3 color side-view drawings, and a 2-page 5-view 1/72-scale drawing. "Lancaster: 'Best of the Best'" 9 pages including 17 photos and 3 color side-view drawings. "A bord d'un Lancaster SAR francais" 2 pages including 3 photos. "Le chasseur Avia BH-21" 16 pages including 60 photos (several photos show BH-21 side by side with some carrying the early 'flag' insignia and other the newer 'trisected' roundel). "Henri Coanda" 4 pages on the career of the pioneer designer including 13 photos (all of the unique Coanda #4, a biplane with two engines buried in the fuselage driving independent propellers at the ends of the rear horizontal stabilizer.) "Le Heinkel 111H-6: Marquette Revell au 1/72e" 3 pages including 7 photos of the completed model. "Info maquettes et livres" 2 pages with reviews of 15 books (AJ Press' 476-page book on the PZL.37 Los is selling for 68.00 Euros plus postage) and 4 kits (an FE.8 and 3 versions of the Farman MF.11).

GERMANY

FLIEGER REVUE EXTRA (Verlag Fliegerrevue, Herrn Detlef Billig, Oranienbamm 48, D-13469 Berlin. 4 issues per year, \$66 surface. Payment by check drawn on German bank)

#16 Marz 2007 (116 pages) "Deutsch-deutsche: Grenzflüge" 30 pages on aircraft that escaped from the East German Democratic Republic (sports a/c, agricultural a/c, home-built a/c, helicopters, gliders, & balloons) including more than 51 photos, a map of East Germany showing the flight paths of 21 escapees, and a table giving details of 69 freedom flights from 1957 to 1990. "Iraks Luftwaffe im Golfkrieg 1991" 20 pages including 26 photos, 9 color side-view drawings [MiG-29, MiG-23MF, MiG-23ML, MiG-23MS (2), Dassault F.1EQ (2), MiG-29PDS, & F/A-18C (USN)]. "Die Indonesische Luftwaffe" 34 pages including 63 photos, 12 color side-view drawings [Ki-43, F-51 (2), B-25, Ki-51, Spitfire (NEIAF), MiG-17F, IL-28, B-26 Invader (2), MiG-21F, & Mi 4]. and 6 pages of tables listing each individual aircraft used by the AURI from 1950 to 1970. "Kroatiens Luftwaffe

zwischen 1912 und 1945" 24 pages: Part 1 of a series on the Croatian Air Force including 49 photos (includes contemporary color photos of G-50, Bu 131, & Avia FL-3), 6 color side-view drawings (Breguet 19, RWD-XIII), Bf 109E, Bf 109G, SIM-X, & Fi 167), an excellent map showing the location of airfields and zones of occupation, and many tables (Croatian aces, aircraft used 1941-1945, aircraft desertions, etc.).

ITALY

AERO FAN Storia di Italiane. English summary. (Giorgio Apostolo Editore, Via Ampere 49, 20131 Milano, Italy.) #100 will be the last issue of AeroFan (See editorial in this issue of SAFO.) For information on the other AeroFan publications, see: www.apostoloeeditore.com.

#97 Apr.-Gui. 2006 (68 pages) "Italians in the Luftwaffe" 16 pages on Italian aircraft impressed into Luftwaffe service after the Armistice of 1943 (mostly recollections of the German pilots who collected the aircraft) including 31 photos. "Nardi Trainers 1939-1943" 19 pages on the FN.315 and FN.316 including 32 photos (3 of Swiss AF FN.315), a 2-page 'structural' 3-view drawing, two 3-view scale drawings of FN.315, and 3 side-view drawings of FN.315 variants. "A Technician with the Nucleo Recupero" 5 pages on the preparation of French Potez 63s for shipment to Italy after the Italian occupation of southern France in 1943 including 11 photos. "Juhu' Returns" 6 pages on the reconstruction of the twin-hulled flying boat S.55 in Brazil including 18 photos (13 in color).

#98 Lug.-Sett.2006 (68 pages) "1926; The Squadriglie of the Regia Aeronautica" 12 pages including 16 photos, a table listing all Squadriglie and their equipment, and color drawings of 16 Squadriglie insignia. "The Savoia Marchetti SM.87" 7 pages on the tri-motor floatplane transport. including 15 photos and a scale 3-view drawing. "A Fighter Pilot in War and Peace" 7 pages including photos (from Ro.41 biplane trainer to the F-86K jet fighter). "The 'Aerobuto' of Pellarini" 12 pages on a series of very attractive flying cars (actually an airplane that could be driven on the road rather than a car that could fly) including 29 photos and a rudimentary 3-view drawing. "1951: The Reborn of Italian Fighter Units" 4 pages in the visit to Italian air bases by Air Marshal Sanders and General Eisenhower including 11 photos. "Jahu' on Final Stage" 6 pages on the reconstruction of the S.55 nearing completion in Brazil including 21 color photos.

#99 Ott.Dec.2006 (68 pages) "An Italian Triumph at Norfolk" 9 pages including 18 photos and a color side-view drawings of the Macchi M.39 - winner of the 1926 Schneider Cup. "Ammaraggio sul Po" 4 pages including 8 photos of an S-55 twin-hull flyingboat that made an emergency landing on the Po river. "G.50 for Finland: Part I" 11 pages including 15 photos. [Ed: I've always wondered about the white discs applied to the Finnish Brewster B.239 while being delivered to Finland. Was the Finnish insignia painted over this disc after arrival in Finland, or was the disc white paint applied over the Finnish insignia to be removed in Finland? A photo in this article shows white paint being applied over the Finnish national insignia on a G.50. Obviously, this was a water-soluble paint that was to be washed off after arrival in Finland. Mystery solved.] "The Last Bomber for the Regia Aeronautica" 5 pages including 8 photos on the 4-engine SM.95B that did not fly until after the war. "Gorizia-Merna agonia di un aeroporto" 5 pages including 14 photos of the airport's building past and present. "Combat over the Adriatic Sea" 12

pages on the French floatplane unit that operated out of Venice during WWI including 15 photos and 5 color side-view drawings [FAB "C" (2), FAB "H" (2), and Donnet-Dennaut 155].

[Ed: Arrivederci Aero Fan. Thanks for staying true to your commitment to recording the aviation history of your country for all these years. You will be missed.]

JP-4 Mensile di Aeronautica (JP-4, Via XX Settembre 60, 50129 Firenze; L. 27.000. English summary of selected articles.

Marzo 2007 (100 pages) "La Nuova Aeronautica Polacca" 5 pages including 13 photos (F-16, MiG-29, Su-22, TS-11, PZL-130TC, C-295, PZL Swidnik SW-4, M-28 Bryza, Mi-17, Mi-8TV, SH-2G, & PZL Swidnik W-3 Sokol). "Aeronautica Litwana" 4 pages including 10 photos (C-271, LET L-410T, An-2, An-26RV, Mi-8, SVA, & Fiat CR-20). "Incidenti Militari" one pages including 5 photos.

Aprile 2007 (100 pages) Color photos: Argentina IA-50 Guarani II 'T-110', Finland CASA C-295, and Canada Boeing C-17. "In missione sulla Charles de Gaulle" 4 pages including 6 photos. "Incidenti Militari" 1½ pages including 4 photos.

Maggio 2007 (150 pages) This is JP4's 400th issue. "L'Aeronautica della Tirgri Tamil" ½-page including 2 photos (a/c type unidentified, but the June issue of JP4 says the Tigers are using Zlin 143). "Aeronautica Militare" 8 pages on current Italian military aviation including 13 photos. "Incidenti Militari" 1½ pages including 6 photos (Taiwan UH-1H & Canada CT-156 Harvard II).

Giugno 2007 (100 pages) "Crasce l'Aeronautica Afgana" ½ page including 3 photos (L-39, Mi-17, & Mi-35); national insignia appears to be the former 3-color equilateral triangle. "Gli F-16 Israeliani" 4 pages including 8 photos. "Incidenti Militari" 2 pages including 6 photos (Argentine Mirage III & Colombian UH-1H).

NETHERLANDS

MODELBOUW IN PLASTIC (IPMS-Nederland, c/o Luuk Boerman, Kerkstraat 2, 2471 AP Zwammerdam. E-mail: lucasb@normadblend.nl.

1/2007 (40 pages) "Vickers Wellington DWI" 5 pages on converting the Sanger 1/48-scale vacuform kit into the mine sweeper including 12 color photos of the model. "F-86K Kaasjager" 2 pages on building the Revell 1/48-scale kit including 4 color photos of the model. "B-25C Donald Duck" 4 pages on building the Accurate Miniatures 1/48 scale kit as 'N5-128' of the NEIAF 18th Squadron including 6 color photos of the model and 2 photos of the real thing. "De Supermarine Spitfire Mk.21 van Aeroclub" 4 pages on building the 1/48-scale kit including 9 color photos.

POLAND

LOTNICTWO (Krzysztof Zalewski, ul Grochowska 306/310, pok. 206, 03-840 Warszawa. E-mail: kz@magnum-x.pl).

2/07 (68 pages) Color photos: Poland F-16D '4077'; Venezuela PZL M-28 Skytruck 'EV-0065'; China Shaanxi Y-8 AWACS, South Korea KO-1 '002', & Lithuania CASA C-261 '06'. "Rodzina Dassault Falcon (cz.II)" 7 pages including 14 photos and 6 side-view drawings of variants. "Szwajcarska Luftwaffe" 8 pages on the present-day Swiss AF including 14 photos (F-5E, Alouette III, F/A-18, PC-6, PC-7, PC-9, Super Puma, Beech Super King Air, Falcon 50, & AS.365 Dauphin). "Embaer EMB.314 Super Tucano" 10 pages including 16 photos and a 5-view scale drawing. "Pierwsze strzelania rakietowe q ZSRR" 5 pages

including one color side-view drawing (Polish MiG-19PM) and 13 photos (Polish MiG19PM, and Soviet Tu-4 & La-17 target drone). "Samolot szturmowy Iluszyń II-10 (cz.I)" 10 pages including 18 photos, a 5-view scale drawing, and 3 color side-view drawings. Eksport polskiego sprzętu lotniczego do Rumunii w latach 1926-1939 (cz.III)" 6 pages including 5 photos and 5 color side-view drawings [PZL-24/III 'SP-BFL', PZL-30.BII, PZL-37 Los 'SP-BNK'; and in Romanian markings RWD-15 & IAR-37,

USA

IPMS/USA JOURNAL (IPMS/USA, PO Box 2475, North Canton, OH 44720-0475 USA. Six issues per year: In USA: \$25 for adults (18 and older) and \$12 for juniors (17 and younger); Canada & Mexico \$30; all other \$32.)

March/April 2007 - Volume 19, Number 02. (74 pages) "Hunter Built for Two" 8 pages on building the Academy 1/48-scale kit using Aeroclub's conversion set including 13 color photos of the completed model. "Two Allison and an Ace: Re-Creating Jack Ilfrey's Lightning with the 1:72 Academy Kit" 10 pages including 12 photos [8 of the finished model (5 in color) and 4 of Ilfrey and his aircraft].

WWI AERO (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$42.00 USA or \$47.00 overseas).

#196 May 2007 (144 pages) "Preston Watson's Aeroplanes" 15 pages on early (1909/13) "rocking wing" aircraft including 9 photos and a small 3-view drawing. (The darn things actually flew.) "The Gallaudet Story Part 16A: The Model D-4" 14 pages on the ill-fated D-4 for the US Navy including 8 photos and 6 pages of scale drawings. "The War with Germany: A Statistical Summary" a 6-page reprint of a 1919 publication. "Aircraft" 4 pages with 13 photos. "Drawings" 4 pages of patent drawings (1893 streamline airship, 1911 'Pyrotechnical Propelling for Aerostructures' and a 1914 Romanian patent for a 3-propeller machine). "Museums/Organizations" 13 pages including 32 photos. "Models" 11 pages including 46 photos. "Publications" 11 pages; pride of place belongs to two books on Romanian pioneer aircraft both with the text in English;

SKYWAYS: The Journal of the Airplane 1920-1940 (15 Crescent Rd., Poughkeepsie, NY 12601; 4 issues \$42.00 USA or \$47.00 overseas.).

#82 Apr. 2007 (80 pages) "The deHavilland DH-4M" 13 pages on the restoration of a mail plane including 6 photos from the 1920s and 25 photos of the restoration. "Dornier Do X: Pioneering Widebody" 11 pages including 24 photos (3 of aircraft in Italian civil markings), a map of D-1929's 'Atlantic Circuit 1930-1932', and a 3-view drawing. "Cockpits: Navy Curtiss SBC-3 Dive Bomber" 5 pages with 10 photos. "Time Flies: The Ultimate Gee Bee" 10 pages including 19 photos (10 of the MAC-1 'military' version) and a 2-page multi-view scale drawing. "A Modeler's Lament - Development of a Three-view for the Command-Aire 3C3-T, NC-583E" 6 pages on developing scale planes from measurements on the actual aircraft including 3 photos and two pages of scale drawings. "Curtiss-Wright Travel Air Speedwing Restoration" 3 pages including 8 photos. "From the Members" 6 pages including 6 photos and a 3-view drawing. "Models" 2 pages including 3 photos. "Skyways Reviews" 2 pages with reviews of 9 books and 2 old movies.

Peace Fox: The Israeli Air Force McDonnell Douglas F-15 Eagle

Part 2: The Beka'a Valley Air Campaign

New Eagles for Israel

Shortly after Operation "Opera" was successfully completed (See "Peace Fox, Part 1" in SAFO #120), the IDF/AF began receiving an even more powerful version of the F-15. "Peace Fox II" (See Note 1) began in August 1981 with the arrival of the first of eight single-seat F-15Cs and six two-seat F-15Ds. Even though they are almost identical externally, these new fighters were such a quantum improvement in capability that they were given a new IDF/AF nickname: *Akevs* ("Buzzard"). These vastly improved F-15s (USAF serials 80-0122 thru 0130 for the F-15Cs and 80-0131 thru 0136 for the F-15Ds) were originally intended to bolster 133 *Tayeset's* capabilities but in April 1982 an additional contract ("Peace Fox III") was signed for another 11 new *Akevs* (nine F-15Cs and two F-15Ds), with deliveries to commence in April 1985. With the prospect of another 25 Eagles in the IDF/AF inventory, plans were made to create a second F-15 squadron, with a scheduled "establishment date" of 6 June 1982. However, this was postponed because the situation in Lebanon was about to escalate into open warfare between Israeli and Syrian forces.

By the end of April the year before the Lebanon Civil War had again become a full-blown conflict with Druze Muslim and PLO forces attacking a Christian Phalange Party militia stronghold at El Matan in the mountains northwest of the Beka'a Valley (Note 2). About the same time the Phalangist militia attempted to wrest control of Zahle, a Christian city near the Beirut-Damascus highway midway across the Beka'a Valley, from Muslim factions and in turn were besieged by Syrian army troops. The Syrians supported the Muslim factions by providing artillery fire, helicopter gunship attacks and transport to the battlefields, and the Israelis supported the Christian militia with air strikes and arms shipped to the Christian port of Jounieh. Interfering directly in Syrian air operations, the IDF/AF's new F-16s destroyed two Syrian Mi-8 Hip assault/transport helicopters at nearby Rayak airfield on the 26th, the first aerial victories of the newly acquired *Netz* fighters.

Simultaneously during strikes on PLO headquarters in West Beirut, two departing Israeli A-4Es were intercepted by a pair of new MiG-23MS Flogger Es (Note 3) that had been stationed in a low altitude orbit over northern Lebanon and vectored towards the egressing Israeli strike flight by GCI (ground control intercept—radar units that guided fighters to engage enemy formations) in the Beka'a Valley. Running them down with their superior speed, the two Floggers shot down the Skyhawks using Vympel R-13M (NATO designation AA-2C "Advanced Atoll") IR-guided ("heat-seeking") air-to-air missiles.

Two days later IDF/AF F-4Es also attacked Syrian forces and positions at Zahle. In response (and partially because of the Syrian AF's inability to effectively prevent the Israeli raids) the next day the Syrians moved three brigades—a total of 19 batteries—of SAMs (surface-to-air missiles) across the border into Lebanon. These included two batteries of SA-2s, two of SA-3s and 15 of the new and highly effective SA-6 "Gainful" (Note 4). The SA-6 was very highly respected by the Israelis

since its surprise introduction in the Yom Kippur War had accounted for most of the 115 warplanes lost in that conflict.

Correspondingly, the IDF/AF stepped up its reconnaissance overflights not only photographing Syrian SAM battery positions, but collecting "electronic order of battle" (i.e., radar frequencies, reaction times, etc.) information. Since overflight of the SAM sites was extremely risky the Israelis resorted to use of their Ryan Teledyne Firebee II drones, losing three of them in the first 30 days of operations, and five more by the end of the year (Note 5). Meanwhile, RF-4E reconnaissance runs also continued (outside the range of the SA-6s) and Syrian MiG-25PDs once again attempted to thwart their missions. In doing so, a second Foxbat fell to an IDF/AF F-15 over Akura on 29 July. (Note 6)

Combat between Lebanese factions, and strike-counter-strike between the PLO in Lebanon and the IDF/AF continued sporadically for another year resulting in the Syrian Arab Air Force (SyAAF) MiGs and Israeli fighters clashing infrequently, usually with the SyAAF taking a beating. However, these intensified in the spring 1982 and in May there were a dozen air-to-air engagements and the Syrians reported losing 20 MiG-21s in combat (Note 7). *Baz* pilots reported destroying two of these, shooting down both with AIM-7F Sparrows, but the "kills" were not confirmed by IDF/AF intelligence. That month the Israeli air force lost one A-4 Skyhawk to a Syrian fighter.

Finally in late May and early June, the PLO began a 12-day artillery/rocket bombardment of northern Israel that caused 60 civilian casualties, brought life in Galilee to a standstill and saw Israeli's fleeing their homes and settlements for the first time since 1947. (Note 8) On June 3rd, the "last straw" was the PLO's attempted assassination of the Israeli ambassador in London and the Israeli government decided to launch a full-scale ground invasion to remove the persistent PLO threat once and for all. On the afternoon of 4 June 1982, seven waves of IDF/AF A-4s, F-4s and F-16s struck PLO facilities in Bierut, concentrating on the PLO headquarters and a large ammunition dump in a football stadium. The next day the Israelis flew 60 more sorties, losing a Skyhawk to a man-launched SA-7 "Grail" IR SAM.

Operation "Peace for Galilee"

Deciding to eradicate the PLO threat to northern Israel, at 1100 hours on June 6th, elements of seven Israeli mechanized divisions—60,000 troops and 500 tanks—crossed the border into southern Lebanon in three wide columns. One force drove up the narrow coastal plain headed toward Beirut while the second advanced through Lebanese Mountains to destroy the PLO bases there. The third was to push up the Beka'a Valley to keep the Syrian forces from intervening in the operations to the west. (For details, see Note 9) In announcing the invasion, the Israeli government emphasized that the goals were to push the PLO out of artillery and rocket range (beyond 25mi/40km) of Israel's northern frontier and urged the Syrians to refrain from action. However, Israeli advances quickly outstripped these initial intentions.

Fighting along the coast was heavy and despite of the Israeli plea to stand aside, the second day IDF/AF *Bazs* and SyAAF Fishbeds clashed in the first of a series of engagements (Note 10). The Syrian formation was a pair of 5 Squadron MiG-21SMTs led by Major Bassam Hamshu, the top SyAAF ace with seven confirmed victories. Scrambled from Dumayr air base, Hamshu and his wingman were vectored into Lebanese airspace where, 14 minutes after takeoff, they were jumped by four Israelis F-15s and Hamshu was shot down and killed (Note 11).

While a single Syrian MiG-23MF Flogger B (Note 12) pilot claimed to shoot down two IDF/AF F-16As with Vympel R-13M/AA-2C "Atoll" heat-seeking missiles an escorting F-15A definitely destroyed Flogger E in return. Offer Lapidot was Number 4 in a four-ship flight patrolling over the coast south of Beirut to screen IDF/AF strike aircraft when they were vectored eastward by their E-2C against approaching SyrAAF interceptors. The F-15s had to abort the attack because they were approaching the Syrian SAM engagement zones but when they turned around, Lapidot (flying *Baz* 658) visually spotted a Flogger that had slipped by them, about 5-7 miles away cruising along above the overcast with his wings out at the "45 degree sweep" (combat maneuvering) setting. Probably warned by his GCI, the Syrian pilot turned north but was soon attacked by Lapidot. He fired one AIM-7F as he approached. It missed and he followed it with a Python 3 which destroyed the MiG. (Note 13)

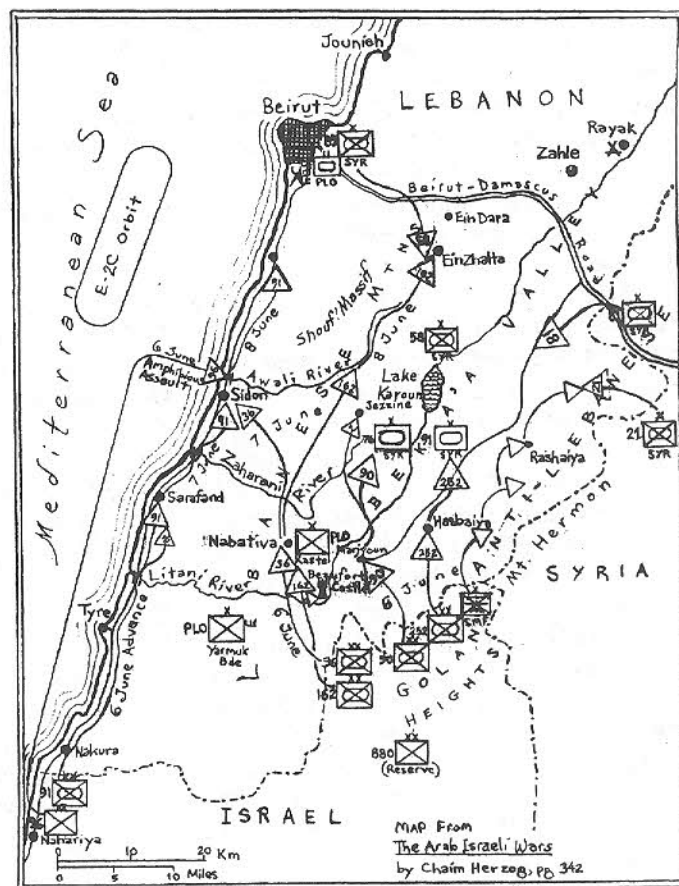
The next day (June 8th) the Syrians again claimed that another single MiG-23 shot down two Israeli F-16As (although there is no evidence confirming this or the previous day's claim) and that a pair of MiG-21s destroyed two A-4H Skyhawks. Additionally, to relieve the pressure on PLO positions SyAAF MiG-21s and MiG-23BN Flogger H ground attack fighters (Note 14) struck several Israeli armored columns, primarily the Western Force advancing up the coast. In the air fighting IDF/AF F-15s downed two MiG-21s—both of them shot down with AIM-7Fs southeast of Beirut—and two new *Akev*s shared in the destruction of one MiG-23BN by simultaneously firing AIM-7F missiles. IDF/AF F-16s also claimed three victories against Flogger Hs this day, with an additional pair being claimed by ground units.

In spite of the sporadic SyrAAF air attacks, the Israeli Western Force made good progress up the coastal plain, held up only by occasional PLO ambushes, until it stalled in front of Sidon, while the Center Force overcame PLO resistance in the ancient Beaufort Castle (Note 15), opening the Beka'a Valley to further advances and the clash of Syrian and Israeli troops and tanks the next day.

North of Beaufort Castle, the Center Force split, one branch (36th Div) driving to the northwest, towards Beit en-Din in the Shouf part of the Lebanon Mountains to eliminate PLO and Druze strongholds there while the other (162nd Div) continued north towards Ein Dara and the Beirut-Damascus highway. The latter planned to outflank the main elements of the 10th Armored Division to the west while the Eastern Force confronted them south of Lake Karoun. The independent Special Maneuver Force of heli-borne paratroopers and infantry advanced north through the Anti-Lebanon Mountains along the Syrian border in the hopes of cutting off the retreat of enemy armor back into Syria with ambushes in the mountain passes. In the afternoon all three of these forces were attacked by small formations SyrAAF

fighter-bombers and SA.342 Gazelle helicopters using HOT (Note 16) anti-tank missiles.

In spite of the intermittent attacks, throughout the day and well into the night the Israelis consolidated their outflanking positions in the high ground on both sides of the Syrian 10th Armored Division spread out in the valley. Anticipating offensive action by the IDF the next day, the Syrians moved five SA-6 batteries closer to their front lines to fend off expected IDF/AF air attacks.



Operation "Drugstore"

On June 9, Israeli advances continued, clashing with Syrian armored units and bringing them under the protective umbrella of the five batteries of SA-6s that had moved south. This in turn necessitated a dedicated campaign to eradicate the high-threat SAMs so that the Israeli air force could continue to support the advance and forces in combat. (Note 17)

While it appeared robust, the SyAAF situation in the Beka'a Valley was actually an exceedingly tenuous and vulnerable one. The Anti-Lebanon Mountains and Israeli-occupied Golan Heights that formed the western frontier of Syria prevented the Syrian-based GCI radars from seeing into Lebanese airspace except at the higher altitudes. Therefore, the SyAAF based GCI units in the valley to control fighters and fighter-bombers that it forward-based at Rayak airfield. They were backed up by—and protected by—the 19 SAM batteries whose radars were tied into the GCI network to form an integrated air defense system (IADS). However, if the SAMs could be defeated and the GCI network destroyed, the SyAAF fighters flying in the Beka'a Valley would be flying, and attempting to fight, blind.

The IDF/AF had been planning to do just that for several weeks. Having plotted the SAM site locations (Note 18: the five recently moved SA-6 batteries were located that morning by TV-equipped Scout and Mastiff reconnaissance mini-RPVs) and learned their operating frequencies and modes, these were programmed into *Samson* and *Delilah* SAM decoy drones, *Keres* truck-launched anti-radiation missiles (ARMs), and *Ze'ev* surface-to-surface missiles (SSMs) (Note 19). In order to give the impression of a large raid driving deep into the Syrian SAM defenses numerous *Samson* and *Delilah* decoys were launched. As the SA-6s began engaging them, at 1400hours the *Keres* ARMs and *Ze'ev* SSMs were launched, pummeling the closer Syrian SAM batteries with repeated hits. Additionally, in a commendable example of army-air force coordination, Israeli long range artillery (mainly American-built M107/110 and indigenous L33 155mm self-propelled howitzers) bombarded the southernmost SA-6 batteries as the *Ze'ev* missiles rained upon the ones beyond artillery range. In the first ten minutes 10 batteries were either inoperable due to repeated hits or because they had fired off all their ready missiles.

Four minutes later the first wave of fighter-bombers—26 F-4Es—swept in, the Phantoms launching AGM-45 Shrikes and AGM-78 Standard ARMs—shooting them from a stand-off ranges of up to 22mi/35km—against those SAM radars which were still actively emitting and following up with shorter-ranged TV-guided AGM-65 Maverick missiles against the radars that had “switched off” to avoid the incoming Israeli ARMs. As the Phantoms penetrated the Syrian missile engagement zones, the 134 *Tayeset* EB-707 orbiting in the rear jammed the SAM acquisition radars, masking their approach. (Note 20) Behind the Phantoms, a similar number of Kfir C2s hit SAM control vans and missile storage areas with “iron bombs”. (Note 21)

As the first wave departed a second wave of 40 A-4s and Kfirs roared in, spreading cluster bomblets across the SAM missile positions to deny personnel movement while specially configured F-4Es used 2,000lb TV-guided GBU-15s against surviving radar sites and control vans. By the time this wave turned south at 1435hours, 17 of the 19 SAM batteries had been knocked out.

At that time the third wave of fighter-bombers swept in and attacked the Syrian mobile GCI sites, completing the blinding of the SyAAF IADS in the Beka'a Valley, while F-15s and F-16s established CAPs over the funeral pyres of the destroyed SAM sites. Their timing was good because as SyAAF leaders realized that their air defense network was being methodically dismantled, they scrambled three squadrons of Fishbeds and a number of Floggers (the total was estimated at 54-60 MiGs) to attack the Israeli fighter-bombers in the Beka'a Valley. But what they found instead were formations of F-15s and F-16s—controlled by 192 *Tayeset* E-2C AWACS that spotted the MiGs approaching and had a very clear picture of air activity in the valley—waiting for them.

Without GCI to warn them the MiGs were ambushed. The MiG-21s and -23s were at an almost total disadvantage against the Israeli F-15s and -16s. They were armed almost exclusively with IR missiles which required maneuvering to firing positions behind the enemy whereas the IDF/AF fighters had “front aspect” radar (AIM-7F) and IR (Python 3) missiles. The SyAAF tactics were largely “frontal attacks” into these weapons, attempting to maneuver to the “rear quarter” only if they

survived the “initial merge” with their enemies. Many SyAAF MiGs were blasted from the sky before they ever saw or met their adversary “at the merge”.

Additionally, while the F-15s and F-16s had long-range radars allowing them to position themselves advantageously for the attack, the MiGs were limited to initial GCI vectors from radar sites back in Syria, and as they approached the Israeli fighters, electronic jamming rendered their radars useless and disrupted their radio contact with the Syrian-based GCI units. As one SyAAF pilot reported, “When [we] closed to 10-15km [6-9 miles] to the enemy, our radars would go black and we would lose all means of detecting them. Heavy jamming wasn't concentrated on our radars alone, but also on our communications with ground control.”

In the ensuing battles, ten Fishbeds were shot down (Note 22), half of them by the *Akev*s and *Baz*s. The Israeli F-15s also claimed four Floggers destroyed (Note 23). Moshe Melnik—the first pilot to ever to score a victory with the F-15 and now the commander of 133 *Tayeset*—was credited with one of each, in two back-to-back engagements, while piloting a new *Akev* (serial 802). Melnik was leading a four-ship formation which was initially vectored to intercept a pair of Floggers approaching from the east. Melnik got the radar lock on the lead MiG and directed his Number 3 to take the Syrian wingman. As soon as Melnik visually identified the Flogger he unleashed an AIM-7F Sparrow which destroyed it. Meanwhile, the Number 3 lost his radar contact due to a technical malfunction, but his wingman, Avi Maor (in *Baz* 646), picked it up and engaged at short range with a Python 3, the Flogger pilot ejecting at missile impact.

As he was leading his formation back to the west to return to the CAP orbit, Melnik's second element (Numbers 3 and 4) formation was attacked by a pair of MiG-21s. The Fishbeds had closed on the F-15s while the Israelis were focused on attacking the Floggers and as Melnik's formation retired to the west, they closed to within missile range and began firing Atolls. The Israelis immediately broke into defensive turns and in the tightly turning fight that followed Maor maneuvered onto the tail of one Fishbed and flamed it with 20mm cannon fire. Melnik immediately turned to support and leading his wingman into the fray destroyed the second MiG with a Python 3 missile.

While this was a close call, the next engagement was even closer. Replacing Melnik's formation on CAP at 1730 was LtCol Yoram Peled (a flying school squadron commander and F-15 Emergency Posting pilot with one previous victory) leading three other F-15s to patrol over Rayak, in the northern part of the Beka'a Valley. Peled's wingman was Ronen Shapira (who had gotten a MiG-23 earlier that day) and leading his second element was Col Eitan Ben-Eliyahu (former 133 *Tayeset* commander with one victory) with Oran Hampel on his wing. From their CAP they were vectored south against a formation of Syrian MiGs about 20mi away.

Arriving “at the merge”, Ben-Eliyahu got the first “tally ho” on two MiG-21s and he and his wingman quickly engaged. Hampel fired an AIM-7F at the second MiG which erupted into a fireball and after a moment engulfed in flames, the Syrian pilot ejected. Meanwhile Ben-Eliyahu's first missile missed and he was forced off by heavy Syrian AAA (anti-aircraft artillery fire). Peled followed up the attack with a Python 3 that flamed the Fishbed and called everyone to egress back to the north out of the increasingly intense Syrian ground fire.

Meanwhile, Peled's wingman, Shapira, met a third Fishbed nose-to-nose at over 1,000 knots closure and they passed canopy-to-canopy (180degrees out) with only 200m/600ft between them. Turning north to obey his leader's orders allowed the Fishbed to roll in behind him and Shapira immediately chopped the throttles to idle (to reduce the heat signature of the powerful F100 turbofans and thus deny an Atoll shot) and pulled maximum Gs to overshoot his attacker. The MiG's Atoll missed and the Fishbed followed, overshooting out in front of the hard turning F-15A, Shapira immediately took aim and unleashed a Python 3. The MiG began to smoke and lose height and Shapira followed it down to ensure it crashed.

Only seconds later *Baz* 684 was rocked by a heavy blast and the right engine fire light glowed bright red. While pulling up to rejoin his formation, Shapira had been attacked by a fourth Fishbed: a MiG-21bis flown by Capt Harra firing a Vympel R-60 (AA-8/"Aphid") IR AAM. The missile exploded near the F-15's right engine causing it to catch fire and shredding the right vertical and horizontal stabilizers. Fortunately the small (6.6lb/3kg) explosive charge of the R-60 and the titanium bulkhead between engine bays prevented damage to the left engine and as Ben-Eliyahu chased Harra away, Shapira used afterburner on his one good engine to climb up to 17,000ft altitude to clear the peaks of the Lebanese Mountains. Shepherded by Peled on his left wing and covered by the second element, Shapira nursed his crippled *Baz* safely to Ramat-David AB (Israel's northernmost air base) where an emergency landing on one engine and with no hydraulics was safely accomplished. (It took two months to repair the damage; see Note 24)

Also that day another MiG-21bis reportedly shot down a Kfir C2 with an R-60/AA-8 "Aphid" missile and this victory is judged "confirmed". Additionally two Floggers claimed to shoot down F-16s, one of them reportedly falling southeast of Lake Karoun, its pilot ejecting and being recovered by IDF ground forces. Two more Flogger B pilots claimed also to have shot down a single F-4E with R-3S/AA-2 "Atoll" IR-guided missiles.

Overall the IDF/AF claimed 22 Syrian aircraft destroyed, the SyAAF admitting the loss of 16 aircraft (10 Fishbeds, five Floggers and one helicopter). In return SyAAF claimed the four IDF/AF aircraft mentioned above as shot down. Later the Syrian news agency SANA and Soviet propaganda (*Pravda* and *Red Star*) reported 26 Israeli aircraft shot down, but even if this is close to the truth it undoubtedly includes many decoy drones shot down by SAMs. The IDF/AF acknowledged no losses for the day.

On the ground the Israeli's Eastern Force (90th and 252nd Divs) closed with the Syrian 10th Armored Division's two tank brigades south of Lake Karoun and began destroying them while the most advanced Israeli unit (BrigGen Einan's 162nd Div) drove to Ein Zahlte, within nine miles (15km) of the Beirut-Damascus highway (Note 25). The ground situation had become so critical for the Syrians that a T-72 tank brigade of the 1st Armored Division drove from Damascus, attempting to attack the eastern flank of the Israeli forces, and became heavily engaged in one of the most vicious tank battles in the conflict. The counter-attack distracted the Israelis long enough for the 10th Armored Division to extract its two brigades and retreat eastward across the border, leaving 200 T-62 tanks on the battlefield, 90 of them captured intact by the Israelis.

Air Superiority Attained

The following morning the air battle resumed with Phantoms and Kfirs destroying the two remaining SAM batteries—as well as another four SA-6 batteries which had been moved in from Syria overnight—while F-15s and F-16s engaged the SyAAF MiGs sent into make up for the lost missile defenses. It was another massacre as 14 MiG-21s fell to the advanced US-made fighters, most of pilots being killed. Six of these were shot down by *Akevs* and *Bazs*, but more important the F-15s took on the more capable MiG-23s and are credited with destroying six of them. Two Floggers and one Fishbed were shot down by Avner Naveh (in *Akev* 957) making him the first Israeli F-15 "ace", and the first Israeli pilot to shoot down three MiGs in a single mission. He dispatched the first target, a Flogger, with an AIM-7F, and then used Pythons to destroy the remaining Flogger, and later the Fishbed. Additionally Col Benyamin Zinker, the former 133 *Tayeset* commander with one "kill" previously, destroyed one of the Floggers while flying *Akev* 840.

In spite of the massacre, the SyAAF was able to score one success when a pair of very low flying MiG-21MFs slipped through the F-15/16 screen and chased down an F-4E which had experienced an engine failure (perhaps due to ground fire) while attacking one of the few remaining air defense sites. The crippled Phantom was limping homeward when it was run down by the Fishbeds who shot it down with 23mm cannon fire. The F-4 crew ejected and were rescued by an IDF/AF helicopter, most likely a 124 *Tayeset* Bell 212 from Palmachim AB. This was the only claim made by the SyAAF this day. The IDF/AF claimed 26 MiGs and three helicopters shot down with, again, no losses admitted. The SyAAF admitted the loss of 14 MiG-21s, two MiG-23s and six helicopters (22 aircraft total).

Meanwhile, on the valley floor, the Syrian army continued to resist the Israeli drive towards the Beirut-Damascus highway. While most of the badly mauled 10th Armored Division had retired, the 58th Mechanized Brigade remained and from the east the 21st Mechanized Brigade (of the 1st Armored Division) crossed the border to engage the Israeli right flank. From the northwest 85th Mechanized Brigade (of the 3rd Armored Division) drove from Beirut to engage the Israeli left flank. To assist these units, from 0715 to 0900 hours a dozen SyAAF HOT-armed Gazelles (primarily from 977 Squadron) flowed across the Beka'a Valley battlefields on "search and destroy" missions, destroying a number of M-60 tanks and M-117 armored personnel carriers as they had been doing with disturbing regularity, despite the IDF/AF's air superiority at higher altitudes (Note 26). An IDF/AF F-15 also accounted for one of the six SyAAF helicopters lost that day, Zvi Nadiivi (flying *Akev* 848) shooting down an SA.342L Gazelle anti-tank helo with a Python 3.

June 11th was the last day of continuous combat as a hastily bartered cease-fire went into effect at noon that day. Nevertheless both sides fought with renewed vigor, with the Israelis trying desperately to sever the Beirut-Damascus highway and cut off PLO and Syrian forces in and around the Lebanese capital, and the Syrians attempting just as desperately to prevent it. To help the Syrian army in this objective, the SyAAF mounted its largest ground attack missions to date, using air-to-air MiG-23MFs and MSs to engage IDF/AF F-15/16s at medium altitude while the more limited MiG-21s provided close escort for the MiG-23BN air-to-ground Flogger Hs and Sukhoi Su-22 Fitter Fs raced to their targets at low altitude. Additionally

SyAAF MiG-25s flew high speed, high altitude profiles over the Beka'a Valley in an attempt to lure the Israeli fighters to "look up" with their radars and thus decoy them away from the strike formations approaching at low altitudes (Note 27).

In two raids Flogger H and Fitter F fighter-bombers ingressed in two squadron-size waves, each escorted by a squadron of MiG-21s, closely packed, one wave right behind the other in the hopes that the F-15s and F-16s engaging the first wave would allow the second wave to pass through the Israeli fighter screen relatively unmolested. The battle went as the Syrians anticipated, and some of the Fitters got through but the tactic "proved very expensive and always led to losses on our side" according to one Syrian pilot. The first wave of Sukhoi fighter-bombers lost five to seven jets while getting through the Israeli interceptors (mostly to F-16s) to attack the IDF/GF MIM-23 I-Hawk SAMs. But this allowed the second wave to pass through relatively intact and it hit an Israeli armored brigade attacking elements of the Syrian 85th Mechanized Brigade near the Beirut-Damascus highway. Gazelles followed up the air raid, reportedly destroying a dozen Israeli tanks.

In the northern part of the Beka'a Valley two MiG-23MS Flogger Es flown by Capts al-Kherat and al-Zoa' reportedly engaged an approaching IDF/AF formation of F-4E Phantoms and each claimed one shot down using R-3S/AA-2 Atoll missiles. However, their victory was short-lived as they were immediately engaged by Israeli F-15s as they raced back to Syria. These were a four-ship formation led by LtCol Yoram Peled (in *Baz* 678), who had raised his score to three with a victory over a MiG-21 the day prior. On this occasion Peled's wingman was Udi Zohar and his second element was F-15 ace Avner Naveh leading No'am Knaani, who had scored two MiG-23 "kills" the day before.

Peled's formation had flown up the Lebanese coast and turned east after passing north of Beirut, headed for a CAP point near Rayak and they were immediately vectored to engage

Syrian interceptors over that point (about 25mi/40km distant), headed east at low altitude. Peled got radar contact on the enemy, ordered the formation to jettison their drop tanks and immediately pushed the throttles into afterburner to accelerate and close on the escaping Floggers. Meanwhile the Syrians swept their wings back and accelerated as well so that the "tail chase" stagnated at about 2mi/3.2km and 620knots. Knowing he was not going to get any closer, Peled was forced to use AIM-7Fs, which was not known for its successes in the lookdown, tail chase mode. However, in this case the Sparrow worked as advertised and Peled destroyed one, then the other escaping Floggers, becoming the second—and only other F-15 ace in history. The Syrian pilots ejected safely from their disintegrating MiGs and later walked back to Syrian positions. (Note 28)

Meanwhile a SyAAF MiG-21bis providing close escort claimed another F-4E shot down, but six other Fishbeds were lost in a series of engagements. Half of them were shot down by F-15s in vicious dogfights, one of them by Offer Lapidot, who had the distinction of claiming both the first and the last F-15 victory in the "Beka'a Valley Campaign".

But at noon it was all over (although the cease-fire broke down two hours later there were no more aerial engagements). Officially the IDF claimed that 92 Syrian aircraft—85 fighters and seven helicopters—were destroyed during Operation "Peace for Galilee" from 5-12 June 1982. IDF/AF *Akev's* and *Baz's* are credited 33 victories. Another 44 kills were awarded to IDF/AF F-16s and one F-4E was credited with shooting down one Syrian MiG. (Note 29) The Israelis losses have never been satisfactorily admitted but are believed to have totaled 13 aircraft: one F-16A, one F-4E, one Kfir, two A-4s, and one each AH-1 Cobra, Hughes 500D Defender and Augusta Bell AB.212 helicopters, with the other aircraft (and perhaps some of these) being ones that successfully recovered, but were written off due to extensive battle damage. (Note 30)

Summary of IDF/AF and SyrAAF Claims During Operation Peace for Galilee					
Date	IDF/AF Air-to-Air Claims	SyrAAF Admitted Losses	SyrAAF Air-to-Air Claims	Probable IDF/AF Losses	Remarks
June 6	0	0	1	1	1 AQM-34 Shot Down by MiG-23MF
June 7	1	2	2	0	
June 8	8	6	4	2	2 A-4s Shot Down by Ground Fire
June 9	22*	16	4**	2	1 Kfir Shot Down by MiG-21bis Probably 1 F-16A by a MiG-23MF
June 10	29	22	1	1	1 F-4E Shot Down by two MiG-21MFs
June 11	18	15	4	0	
TOTAL	78	85***	16	6	Includes AQM-34 drone

* Initial IDF/AF claims were for 29 SyrAAF aircraft destroyed, later revised downward to 22.

** Afterwards Syrian and Soviet news agencies claimed that the SyrAAF shot down 26 IDF/AF aircraft with their fighters and SAMs, and even later this was revised downward to 19.

*** Note that Syrian daily loss admissions do not agree with the total losses suffered as later admitted by the SyAAF.

"Peace Fox: Part 3", to appear in SAFO #122, covers the IDF/AF's the final F-15 aerial victories, the use of F-15 in the air-to-ground role including the long-range

strike against PLO headquarters in Tunisia, and the status of the IDF/AF F-15 force today.

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End Notes

1. In a correction to "Peace Fox: The Israeli Air Force McDonnell Douglas F-15 Eagle, Part I" printed in SAFO #120, it is now confirmed that instead of the first batch of F-15A/Bs being split between Peace Fox I (FSD airframes) and II (normal production airframes), the second batch of Eagles—F-15C/Ds—was split between Peace Fox II (FY 1980 purchase airframes) and III (FY 1983 purchase airframes). Previously the former was thought correct because of the use of two separate contracts to acquire all 25 aircraft. However, IDF/AF serial number allocations—and the three year split between purchases—support the latter. This is confirmed in Schlomo Alomi's *Israeli F-15 Eagle Units in Combat*, (Oxford, UK: Osprey Publishing Limited, 2006), pages 39, 40.

2. The Lebanese Civil War began in April 1975 and after an initial 12 months of open warfare, settled into a pattern of intermittent conflict. The first phase ended in May 1976 with the introduction of Syrian troops, tanks and aircraft into Lebanon (invited into the country by the Christian government as part of a multi-national Arab peace-keeping force), ostensibly to stabilize the situation and impose a cease-fire. It is important to understand that following the post-WW2 departure of the colonial powers from the Middle East the Syrian government never recognized Lebanon as an independent state and had no embassy in Beirut or any other diplomatic relations with the Lebanese government, viewing that little country as part of "Greater Syria". Consequently, by 1981 the other Arab peace-keepers had departed leaving the Syrian army as occupiers of central Lebanon and they began increasing their influence by actively supporting the Muslim forces against the Christian Phalangists in the north and the PLO against the Israelis in the south. In June 1982, the Syrian forces in Lebanon totaled some 30,000 troops including the 10th Armored Division in the Beka'a Valley, the 58th Mechanized Brigade in Beirut and smaller units deployed along the Beirut-Damascus highway. For an excellent understanding of this situation, and detailed descriptions of the overall political and ground events, see Chaim Herzog's *The Arab-Israeli Wars: War and Peace in the Middle East*, "Book VII: Operation Peace for Galilee" (NY: Random House, 1982), pages 339-351.

3. The MiG-23MS Flogger E was the "export version" of the Soviet swing-wing MiG-23MF with the MiG-21's RP-22SM "Jay Bird" target acquisition and fire control radar (13.5mi search/9mi track) and Vypel R-13M/AA-2C "Advanced Atoll" IR missiles. First received in 1973, the Syrians found the exceptionally fast MiG-23 to be much more complex than the MiG-21, more demanding to fly and more difficult to operate in combat. Consequently several were lost in training accidents and the four squadrons were very slow to attain operational readiness. See Tom Cooper's "Floggers in Action: Early MiG-23s in Operational Service", *Air Enthusiast*, No.100, July/August, 2002, pg 58. For the Flogger shoot-down of the two A-4Es, see page 60.

4. NATO codenames are used for clarity: The SA-2 (NATO codename "Guideline") was a medium-to-high altitude, relatively long range (21nm/40km), moveable strategic SAM made famous in combats with USAF F-105s and F-4s over North Vietnam. The SA-3 ("Goa") was a fixed site, medium-to-low altitude, medium range (13nm/24km) strategic SAM used for defending specific targets in the rear areas. The SA-6 ("Gainful") was a mobile (mounted on a tracked vehicle), medium-to-low altitude, medium range (16nm/30km) tactical SAM designed to protect forward armored units in highly mobile, offensive operations. One SA-6 battery consisted of three vehicles each mounting three missiles each, plus a radar vehicle carrying the "Straight Flush" tracking radar and a missile resupply vehicle.

5. These were ground-launched versions of the USAF AQM-34L drone. In one of the few confirmed Syrian aerial victory claims—and a superior feat of Arab airmanship—a MiG-23MF shot down a pilotless AQM-34L on 6 June 1982, at the beginning of the "Beka'a Valley Campaign". Reportedly the MiG was then engaged by a flight of four IDF/AF F-15s and evaded several AIM-7Fs to escape destruction. Cooper's "Floggers in Action", page 60.

6. Syrian AF claimed that a MiG-25PD shot down an F-15 with a Bisnovat R-40R (AA-6 "Acrid") radar-guided missile on 29 June 1981, but this is unconfirmed and there is no reason to believe this is true. This and all other Syrian aerial victory claims in this article are from "Syrian Air-to-Air Victories since 1948", dated September 25, 2003, as published by the

Air Combat Information Group (ACIG) Team (headed by Tom Cooper), on the ACIG website: http://www.acig.org/artman/publish/printer_272.shtml. The ACIG does a good job sorting Syrian "claims" versus "confirmed" victories and is probably the best source of relatively accurate information on the subject.

7. This number includes one MiG-21MF which stalled and crashed while trying to intercept a slow flying Israeli reconnaissance drone. This is the only known case of an unpiloted aerial vehicle (UAV) obtaining a victory over a manned aircraft. See David Nicolle and Tom Cooper's *Arab MiG-19 and MiG-21 Units in Combat* (Oxford, UK: Osprey Publishing Limited, 2004), page 76.

8. By this time Yasser Arafat had organized his 10-15,000 armed followers into a formal military service, the Palestine Liberation Army (PLA) of about 4,000 trained soldiers, and a paramilitary militia, mostly sited in the many large refugee camps in southern Lebanon. The PLA was organized into three infantry brigades, seven artillery battalions (with 250 guns and rocket launchers) and one tank battalion (80 T-34 and T-54 tanks). Solley, page 19.

9. The Western Force (MajGen Yekutieli Adam) consisted of the 91st (mechanized) Division leading and the 96th Division following (and launching an amphibious assault up the coast to trap PLO forces "between two fires") to destroy PLO strongholds along the coast. Adam's initial objective was to drive to the Awali River, five kilometers north of Sidon. The Center Force (BrigGen Avigdor Kahalani) also consisted of two divisions: the 36th Division was to eliminate PLO strongholds in the southern Lebanese Mountains and prevent escape of PLO forces into the mountains or their reinforcement by forces in the Beka'a Valley, and the 162nd Division (BrigGen Menachem Eitan) was to advance north protecting the right flank of the 36th Division and be positioned to continue northward to cut the Beirut-Damascus highway. The Eastern Force (MajGen Avigdor Ben-Gal) consisted of three divisions and an independent force and would advance north from the Golan Heights in two columns: one into the south end of the Beka'a Valley to confront the Syrian Army and the other up the Anti-Lebanon Mountains which forms the frontier between Syria and Lebanon. The 252nd Division would descend into the Beka'a Valley to face the Syrian 10th Armored Division while the 90th Division moved through the highlands to close on the Syrian's east flank. The Special Maneuver Force was formed of paratroopers and helicopter-borne infantry armed with anti-tank weapons. They were to leapfrog north through the Anti-Lebanon Mountains to cut off any Syrian reinforcements from Damascus. The corps reserve was the 880th Division. Source: Major George C. Solley, USMC, Marine Corps Command and Staff College Paper "The Israeli Experience in Lebanon, 1982-1985", 10 May 1987, pages 17, 18. See also Herzog, *Arab-Israeli Wars*, pages 344, 345.

10. The SyAAF preferred to use the older, simpler MiG-21 in combat over Lebanon, reserving the more capable MiG-23 to defend Damascus and Syria itself. However, because IDF/AF F-15s and F-16s held such great advantages over the old Fishbeds, some Floggers were occasionally introduced to try and "level the playing field".

11. Although it obviously and admittedly occurred, this victory was not credited to any IDF/AF F-15 pilot. Hamshu had scored his first victory on 2 April 1970 when he shot down an Israeli F-4E Phantom II over Mount Hermon and was credited with six more "kills" during the War of Attrition and Yom Kippur War.

12. The MiG-23MF Flogger B was the standard Soviet interceptor, using Sapfir-23D "High Lark" radar (24nm search/16nm track) and armed with the Vypel R-23R/AA-7 Apex radar-guided missile and the new Molniya R-60/AA-8 Aphid short range IR missile.

13. The account of this engagement—as well as all others in this article—are from Alomi's *Israeli F-15 Eagle Units in Combat*, in this case page 42.

14. The MiG-23BN was the second iteration of the specifically designed ground attack version (MiG-23B Flogger F) of the Soviet "swing wing" interceptor. It dispensed with the air-to-air radar to allow the distinctive downward slanted nose that allowed enhanced pilot viewing of ground targets and instead carried a navigation/attack avionics suite optimized for attacking ground targets. Overall, SyAAF Flogger Bs flew over 100 sorties from 8-11 June, but lacking radar warning receivers and

ECM gear, they were easy prey for the Israeli fighters. According to "Syrian Tank Hunters in Lebanon, 1982", dated September 26, 2003, as published by Tom Cooper and Yaser al-Abed, on the ACIG website: http://www.acig.org/artman/publish/printer_279.shtml, seven were lost to IDF/AF fighters and another to an Israeli army MIM-23B I-Hawk SAM during the "Beka'a Valley Campaign".

15. Beaufort Castle was built by the Crusaders in the first half of the 12th Century.

16. HOT is the abbreviation for the French "Hautsubsonique Oblique Téguidé Tiré d'un Tube" or "high subsonic [speed] optical remotely guided [missile] fired from a tube". It is the French-German equivalent of the American TOW anti-tank missile.

17. "Operation Drugstore", the Suppression of Enemy Air Defenses (SEAD) Campaign during "Operation Peace for Galilee", is also known as "Operation Arizav-19". *Arizav* is Hebrew for "Mole Cricket" which is believed to be the Israeli nickname or codename for Arab SAMs, the number "19" representing the number of Syrian SAMs batteries to be put out of action by the operation.

18. The Syrians had the habit of deploying their mobile missile batteries in fixed sites for months at a time, allowing the almost continuous Israeli reconnaissance to accurately pinpoint their positions. Even the five batteries that moved were easily findable because they either moved to previously prepared/used positions (which had been located and duly marked) or were not dug in at all and fully exposed. No camouflage netting or other means were used to disguise the SAM batteries; neither were they extensively dug in for survivability. The Syrians elected to use smoke generators to mask the site when the time came; unfortunately the smoke actually attracted attention and made the SAM sites more visible from the air. Contrary to some accounts that said the Syrian SAMs were located on high terrain and that the IDF/AF fighter-bombers got "in close" to them by flying beneath their radar coverage because the radars could not be "depressed" to look into the valley, the Syrians actually never placed their SAMs on the hilltops where their range and look angles over and beyond the surrounding terrain would be enhanced (not degraded—radars are not like guns). According to LtGen Leonard Perroots, (at the time the Director of the US Defense Intelligence Agency) as quoted in an article in the June 1987 *Armed Forces Journal*, "The Syrians used mobile missiles in a fixed configuration; they put the radars in the valley instead of the hills because they didn't want to dig latrines—seriously."

19. The "Samson" was the Israeli variant of the Brunswick Defense Corporation (Costa Mesa, CA) Model 300 "Maxi-Decoy", a 400lb glide decoy with pop-out "switchblade" wings that folded into the body so that it could be carried beneath the wings of a fighter aircraft and launched in-flight toward known SAM sites. Launch parameters were usually from medium-high altitude and about 420knots, from which it could glide about 87mi/140km. The "Delilah" was an Israeli Military Industries re-engineering of the Northrop MQM-74 Chukar subsonic target drone originally produced for the US Navy, of which a quantity were purchased by Israel in the late 1970s. The "Delilah" was ground-launched and powered by a small turbojet, had a programmable flight path autopilot and (if it survived) was recoverable by parachute. Both "Samsons" and "Delilahs" were operated by 146 and 155 *Tayesets*, based at Ramon and Hatzorim ABs, respectively. The "Keres" (Hebrew for "Hook") was a development (specifically for the IDF/AF) by General Dynamics of its AGM-78C Standard ARM (an anti-SAM missile developed for use by USAF "Wild Weasel" aircraft). It was mounted in triplets (in boxes like the Patriot SAM) on M809A1 5-ton trucks and was operated by 153 *Tayeset* based at Palmachim AB and later by 248 *Tayeset* based at Hatzor. The "Ze'ev" (Hebrew for "Wolf") was an Israeli army short range SSM employed by specific IDF/GF artillery units.

20. The IDF/AF Boeing 707 electronic warfare platforms included side-looking radar for surveillance and a variety of powerful stand-off jammers tuned to Syrian SAM radar frequencies, GCI fighter control frequencies and Syrian navigation aid networks.

21. Victor Flinham's *Air Wars and Aircraft: A Detailed Record of Air Combat, 1945 to Present* (NY: Facts on File, 1990) gives an excellent detailed description of the SEAD operation but states that "The first targets were the ground control intercept (GCI) radars in order to deny the SAAF [sic] its control capability." However, to get to the GCI radars, which were positioned well behind the front lines, the IDF/AF attackers would have to penetrate the SAM engagement zones. Also Soviet air defense doctrine,

which the Syrians mimicked almost exactly, was to avoid fratricide of their fighters (controlled by GCI), the MiGs would not enter the SAM engagement zones unless they were (being) destroyed and/or were given a "hold fire" order, so getting to the GCI radars first was not an operational imperative. Consequently, based on operational experience, this author believes that the Israelis first "rolled back" the SAMs with artillery/SSM fire and the first two waves of fighter-bombers and destroyed the GCI radars with the third wave.

22. These are losses admitted by the SyAAF. In addition to the five MiG-21s shot down by F-15s, another pair was reported to have crashed in the Lebanon Mountains after diving into a cloud deck to escape destruction. These were credited by the IDF/AF to the F-15s and 133 *Tayeset* in general (bringing the total Fishbed kills by F-15s to seven) but not to any specific Israeli F-15 pilot. Additionally, in a case of fratricide the MiG-21bis of SyAAF Colonel Faye Mansour was shot down by a machine gun mounted on a Syrian tank in the Kanakir area. Col Mansour was a highly experienced Fishbed pilot with four aerial victories to his credit, three of them—an F-4E and two Mirages—during the Yom Kippur War. See David Nicolle and Tom Cooper's *Arab MiG-19 and MiG-21 Units in Combat*, Osprey, 2004, page 77.

23. The SyAAF reports the loss of two MiG-23MS Flogger B and three MiG-23MF Flogger Es on 9 June. One MiG-23MS pilot was killed, the rest ejected safely. See Tom Cooper's "Floggers in Action: Early MiG-23s in Operational Service", *Air Enthusiast*, No.100, July/August, 2002, pg 61.

24. The account of these engagements is from Alomi's *Israeli F-15 Eagle Units in Combat*, pages 45-47.

25. BrigGen Einan's 162nd Division was effectively stopped by the Syrian 58th Mechanized Brigade at Ein Zhalta. The Syrians used a few dozen tanks, infantry and commandos firing Sagger anti-tank missiles and rocket-propelled grenades (RPGs) from wadis to bring the Israeli column to a halt and force a pitched ground battle.

26. SyAAF Gazelle operations are accurately described in Cooper and al-Abed's "Syrian Tank Hunters in Lebanon, 1982", found on the ACIG website: http://www.acig.org/artman/publish/printer_279.shtml. During the "Beka'a Valley Campaign" the SyAAF claimed to have destroyed 71 tanks, 3 APCs, 3 trucks, 9 jeeps and 2 artillery pieces with Gazelle A/T helicopters. In 150 sorties from 8-11 June, four Gazelles were lost in combat (one was damaged, landed and captured by the Israelis) and a fifth badly damaged.

27. This tactic had no effect since the Israeli's knew that the MiG-25PN's "Foxfire" radar had an extremely limited look down capability and unless the Foxbat dove down considerably it provided no real threat to the Israeli fighters engaging Syrian formations at lower levels, and thus could be ignored. IDF/AF E-2C Hawkeyes kept close tabs on the MiG-25s to ensure this did not occur.

28. The two sides of this engagement are provided by Schlomo Alomi's *Israeli F-15 Eagle Units in Combat*, pages 49-50 and Tom Cooper's "Floggers in Action", page 62.

29. Frustratingly, the two sides' initial claims, revised claims and loss admissions have been constantly "moving targets" even before the smoke cleared over the Beka'a Valley. The tally of 78 victories by IDF/AF F-4/15/16s leave 14 to be accounted for by HAWK batteries, Vulcan AA guns and other ground fire, if 92 "total kills" is an accurate number. Initially Syrian sources admitted to the loss of 60 aircraft and "less than 30" SAM sites, but a subsequent Syrian report, published by Tom Cooper in his "Floggers in Action", page 62, stated that the SyAAF lost 85 aircraft (80 fighters and five helicopters) from 6-11 June, with 27 pilots killed and 8 injured. Interestingly, this last report is at least in consonance with the 78-92 numbers used by the Israelis, but does not agree with the daily loss figures presented during the conflict. Similarly the SyAAF daily victory claims, totaling 16 "kills", does not jibe with their "final claim(s)". The SyAAF final claim for victories was 19 or 21 (depending on the time of the "final claim" and the source reporting it) Israeli aircraft and helicopters destroyed, although this most certainly includes unmanned aerial vehicles and target drones shot down.

30. List of Israeli aircraft losses is from Victor Flinham's *Air Wars and Aircraft*, page 70. Aloni's *Israeli F-15 Eagle Units in Combat*, page 51, reports that three F-15s were damaged in air battles with SyAAF MiGs.

Appendix One
IDF/AF Air Order of Battle
Operation Peace for Galilee
6 June 1982

<u>Role</u>	<u>Squadrons</u>	<u>Numbers and Types</u>	<u>Air Bases</u>
Air Superiority:	106 <i>Tayeset</i>	25 F-15A/Bs 14 F-15C/Ds	Tel Nov Tel Nov
Multi-Role:	69, 105, 107, 119 and 201 <i>Tayeset</i> 101, 104, 109, 111, 113 and 144 <i>Tayeset</i> 110, 117 and 253 <i>Tayeset</i>	138 F-4Es/13 RF-4Es 150 Kfir C2s 75 F-16A/Bs (253 <i>Tayeset</i> forming)	Hatzor, Ovda, Matram Hatzor, Nevatim Ramat David
Ground Attack:	102, 115, 116, 121 and 141 <i>Tayeset</i> 140 <i>Tayeset</i>	130 A-4H/Ns 30 Mirage IIICJs	Ekron, Ovda Ramon
Air Control:	134 and 192 <i>Tayeset</i>	4 EB-707/4 E-2C	Lod
Tanker:	120 <i>Tayeset</i>	7 KB-707	Lod
Intelligence:	128 <i>Tayeset</i>	OV-1E/RU-21J/EC-130 (6 aircraft total)	Kastina
Transport:	103/106/131 <i>Tayeset</i> 122 <i>Tayeset</i>	41 C-130E/H Unkn C-47 and IAI Arava	Lod
Attack Helicopter:	160 and 161 <i>Tayeset</i> 190 <i>Tayeset</i>	30 AH-1G/Q/S 20 Hughes 500MD	Palmachim
Other Helicopter:	123/124/125 Sqdns 114 and 118 Sqdns	38 Bell 206B/AB.212 33 SA.321/S-65C/CH-53A	Haifa/Bezot, Sde Dov Tel Nof

SOURCE: Victor Flinham's *Air Wars and Aircraft: A Detailed Record of Air Combat, 1945 to Present* (NY: Facts on File, 1990), page 71, and *Aerospace Encyclopedia of World Air Forces*, ed. David Willis, Israel Section by Jon Lake and John Fricker, pages 264-266.

Appendix Two
Syrian Air Order of Battle
Beka'a Valley Campaign
6 June 1982

<u>Role</u>	<u>Squadrons</u>	<u>Numbers and Types</u>	<u>Air Bases</u>
Air Defense:	1 Squadron	24 MiG-25PD Foxbat	an-Nasiriya
Multi-Role:	5, 7, 8, 9, 10, 11, 12, 67, and 68 Sqdns 54, 77, 678, and 697 Sqdns Unkn Sqdns	220 MiG-21PF/MF Fishbed (approx 80 in storage/reserve) 54 MiG-23MS Flogger E 36 MiG-23MF Flogger B	Rayak, Shayrat, Deir Zzor, Dumayr, Jirah, Tabqa, Hamah, Homs, Sikel, Dumayr, Marj Ruhayyil, Abu al-Dahur Probably al-Mezzah
Ground Attack:	695, 698 Sqdns 677, 685, 827 5 squadrons	70 MiG-23BN Flogger H 58 Su-7B/Su-22 Fitter F Rayak, Shayrat 84 MiG-17 Fresco (most in storage/reserve)	Rayak, an-Nasariya, Rayak, an-Nasiriyah
Transport:	565, 575, 585	Yak-40, Falcon 20, Tu-134	al-Mezzeh, Damascus IAP
Attack Helicopter:	765 Squadron 976, 977, 988, and 989 Sqdns	12 Mi-25 Hind E 48 SA.342L/M Gazelle	al-Mezzeh Marj as-Sultan, al-Jdaydeh
Other Helicopter:	253, 255, 525 and 532 Sqdns	75 Mi-8 Hip	Afis, Aleppo, Qaba as-Sitt

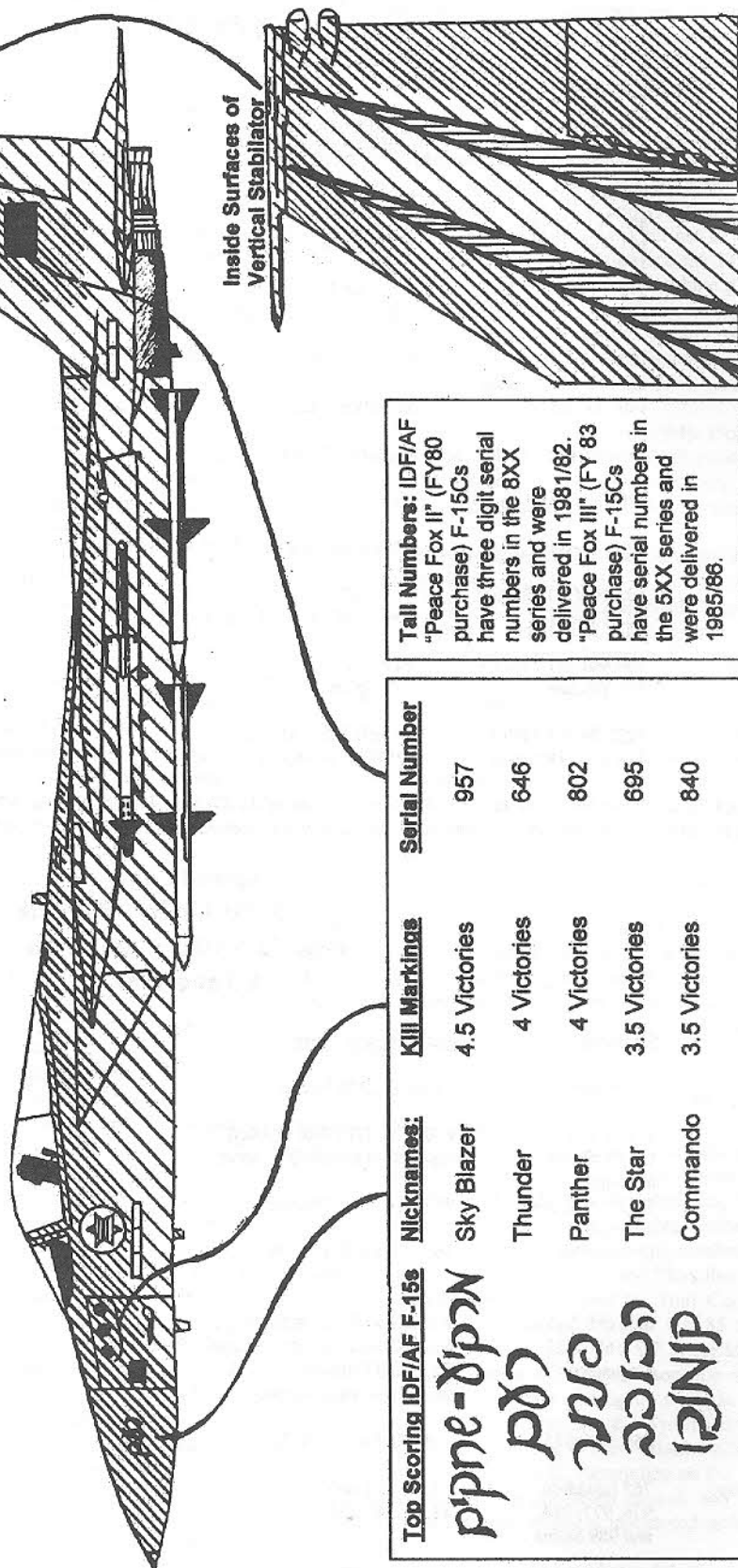
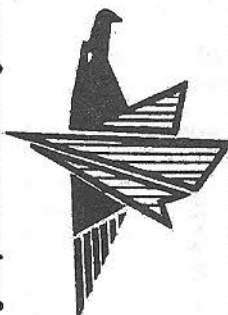
SOURCE: Victor Flinham's *Air Wars and Aircraft: A Detailed Record of Air Combat, 1945 to Present* (NY: Facts on File, 1990), page 71 and *Aerospace Encyclopedia of World Air Forces*, ed. David Willis, Syria Section by John Fricker, page 272.

IDF/AF McDonnell Douglas F-15C Akev ("Buzzard")

In 1980/82 the IDF/AF purchased 26 improved versions of the McDonnell Douglas F-15: 18 single-seat C-models and eight two-seat D-models. They were named Akev in Israel (Hebrew for "Buzzard") and were eventually assigned to the 106th Tayeset "Spearhead Squadron" stationed at Tel Nof Air Base in southern Israel.

Basic Camouflage: USAF Compass Ghost Gray Pattern, Light Ghost Gray (FS36375) Overall with Dark Ghost Gray (FS36320) upper surfaces.

106 Tayeset Emblem: Red spear points through stylized art deco eagle head.



Inside Surfaces of Vertical Stabilizer

Tail Numbers: IDF/AF "Peace Fox II" (FY80 purchase) F-15Cs have three digit serial numbers in the 8XX series and were delivered in 1981/82. "Peace Fox III" (FY 83 purchase) F-15Cs have serial numbers in the 5XX series and were delivered in 1985/86.

Top Scoring IDF/AF F-15s	Nicknames:	Kill Markings	Serial Number
קרן-8'קפ	Sky Blazer	4.5 Victories	957
רעם	Thunder	4 Victories	646
פנתר	Panther	4 Victories	802
הכוכב	The Star	3.5 Victories	695
קופאן	Commando	3.5 Victories	840

The Vought Sikorsky Kingfisher in the Mexican Air Force

Roberto Vargas Cruz

At the beginning of the 1940's, the coast of the Baja California Peninsula was guarded, from Ensenada to La Paz, by Mexican Air Force's (MAF) old biplanes; the Corsarios-Ascarate and Vought V-99. The Corsarios-Ascarate was a Vought O2U-4A built in Mexico and named after the General and aeronautical engineer Juan F. Ascarate. When war broke out in the Pacific on 7 December 1941, the MAF contacted the Compania Importadora de Maquinaria S.A. (Machinery Import Company), the Mexican representative for the Sikorsky Company. By January 1942, the MAF had negotiated the purchase of six Kingfisher OS2U-3 with fixed landing gear.

These six airplanes arrived at the military aerodrome at Balbuena on 25 March 1942 and were inspected by the President, Mr. Manuel Avila Camacho and the chief of the MAF General Roberto Fierro Villalobos. After technical inspections, serial numbers were painted on each aircraft as well as the MAF emblem (a green-white-red triangle) on the wings and a tricolor on the rudder. The machines received the MAF numbers 69 to 74 and serial numbers 5720 to 5725.

On 9 April 1942, the six Kingfishers were sent to the Air Force Base at Ensenada, where this first Air Squadron was based. Later in the same year, due to the length of the surveillance flights along the Baja Coast, the MAF decided to relocate one of the Kingfishers, OS2U-3 FAM-69, to Puerto Cortes located south of the Baja peninsula on the island of Santa Margarita. This airplane was fitted with an Edo float so it could land on beaches far away from its home base. The six airplanes stayed for more than a year on the Baja California Peninsula flying surveillance missions.

On 4 May 1943, five of the OS2U-3 (FAM-70 to 74) were

transferred to the Naval Air Force bases at Tampico and Veracruz. Kingfisher FAM-69 was not transferred to the navy until early in 1944. By the end of the 50s, the navy had returned two of these aircraft to the MAF. Kingfishers with naval code MV-02 and MV-03 were broken up.

A second group of five Vought Sikorsky airplanes arrived in June 1943. This time, the five Kingfisher were OS2U-1 and were assigned to Squadron 206 (Escuadrón Aéreo 206) stationed at Air Force bases in Merida, Yucatan and Cozumel, Quintana Roo. They were identified with the serial numbers OZS-4501 (1684), OZS-4502 (1721), OZS-4503 (1720), OZS-4504 (1731), OZS-4505 (unknown); OZS standing for "Zone Observation Sikorsky". These five single-engine, fixed landing-gear planes were used for maritime surveillance in the Gulf of Mexico and the Caribbean Sea until the mid 1950s. In July 1950, Kingfisher OZS-4505 was lost in an accident in the Caribbean. By 1954, it was reported that aircraft OZS-4503 and OZS-4504 were still in service. The four remaining OS2U-1 were removed from MAF records in 1957.

References

1. Mexican Air. Force files 1971.
2. Files 4th Maintenance Shop 1971.
3. Naval Air Force files 1973.
4. Anahuac Magazine 1942-1943
5. Author's personal files.

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Latvian Hawker Hind

Alex Crawford

In January 1938, the Latvian Air Force ordered three Hawker Hinds. These were powered by Bristol Mercury IX engines generating 830 hp and were fitted with dual controls so they could be used as trainers. These were the same engines that were fitted to the Latvian Gloster Gladiators. The first Hind took to the air in May 1938 and they were delivered shortly afterwards. The aircraft received the serials 176-178. As well as being used to train the pilots destined to fly the Gladiator they were also used by No.5 Reconnaissance Squadron. Their ultimate fate is unknown, although it is likely that they were destroyed during the German invasion of Russia in June 1941.

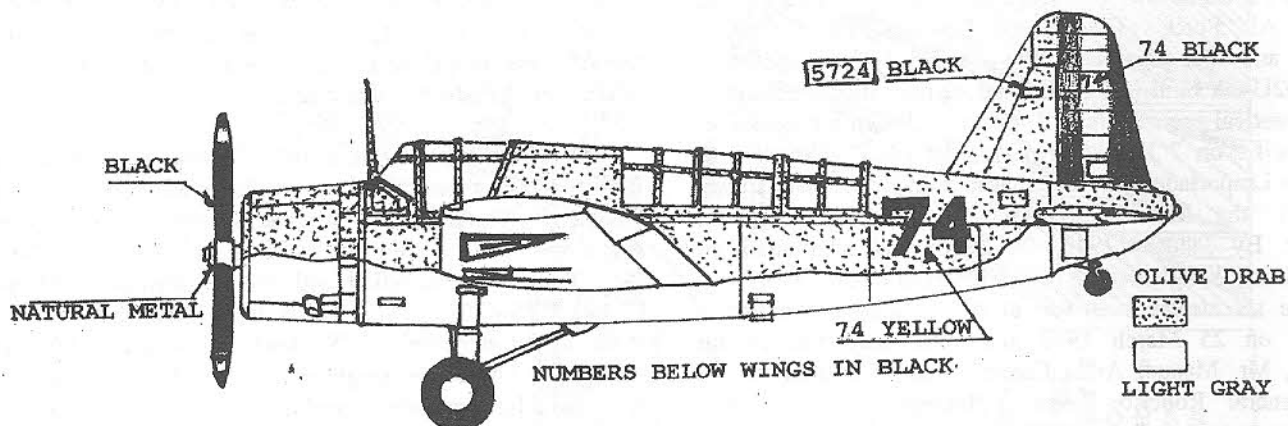
Alex Crawford (SAFCH #1619), 38 Durris Dr., Glenrothes, Fife, Scotland, UK.
E-mail: alexander.crawford@tiscali.co.uk

Colours and Markings

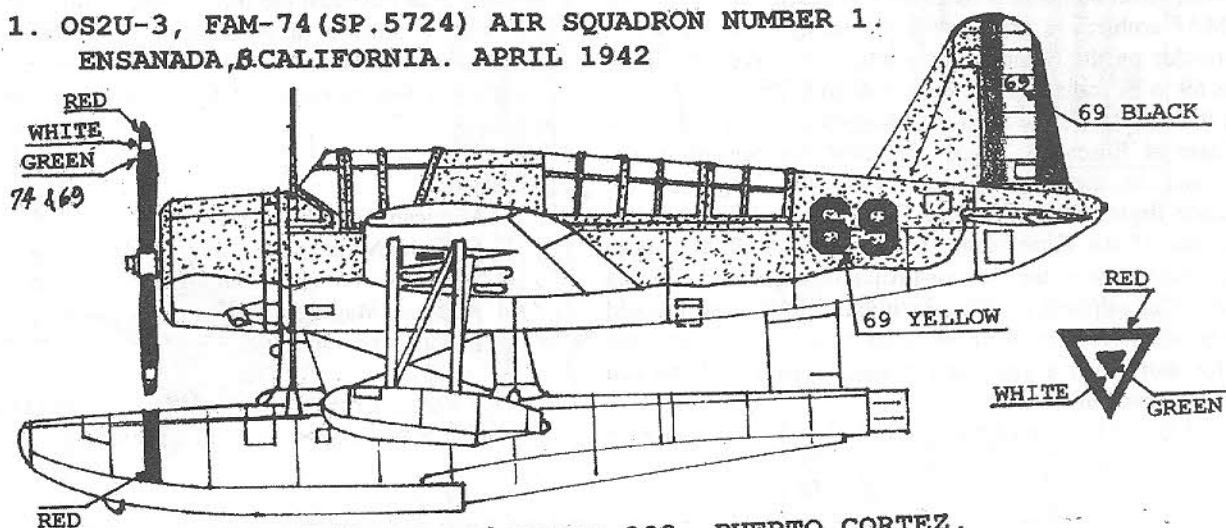
The Hinds were dark green on the upper surfaces of the wings, fuselage, tailplane and interplane struts. The rest of the aircraft was aluminum dope with the forward metal panels highly polished. Serial number was black with a thin white or silver outline. National markings consisted of a red Ugunskrusts (fire cross) placed on a white disc in all six positions. The upper wing Ugunskrusts did not have the white disc and were placed asymmetrically on the wing.

If anyone can provide further information on the Latvian Hinds I would be very grateful.

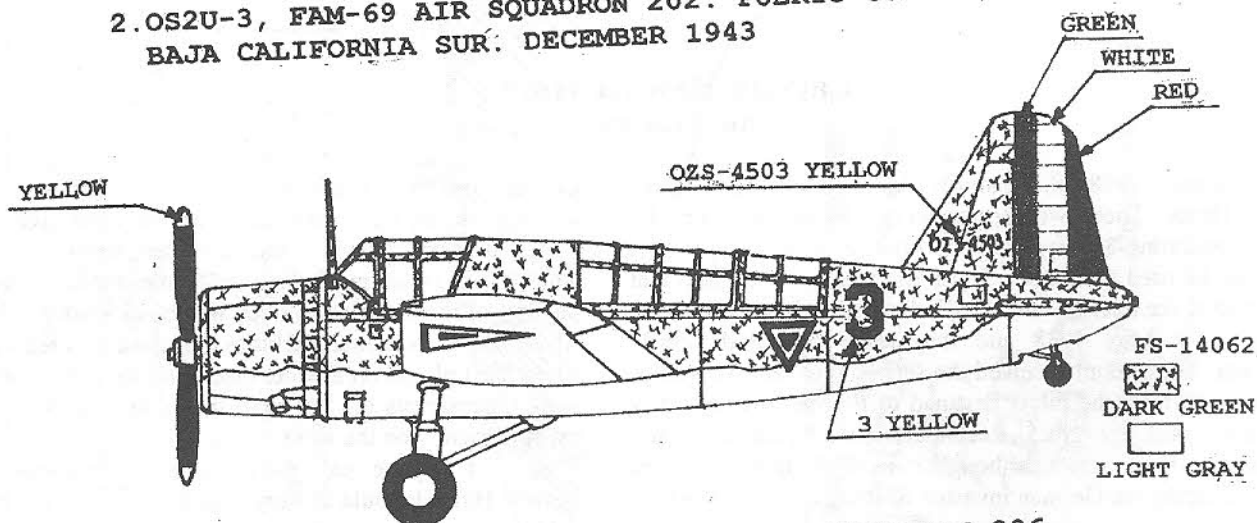
VOUGHT-SIKORSKY "KINGFISHER" IN MEXICAN AIR FORCE



1. OS2U-3, FAM-74 (SP.5724) AIR SQUADRON NUMBER 1.
ENSANADA, S. CALIFORNIA. APRIL 1942



2. OS2U-3, FAM-69 AIR SQUADRON 202. PUERTO CORTEZ,
BAJA CALIFORNIA SUR. DECEMBER 1943

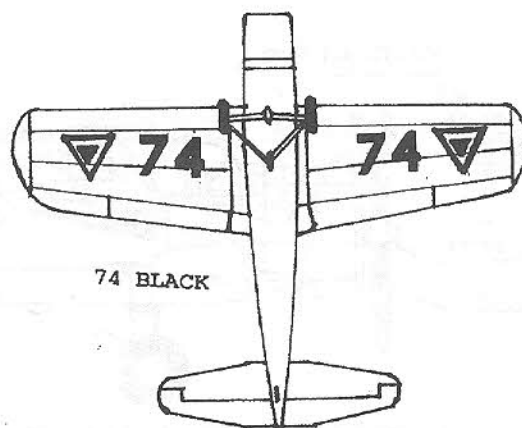
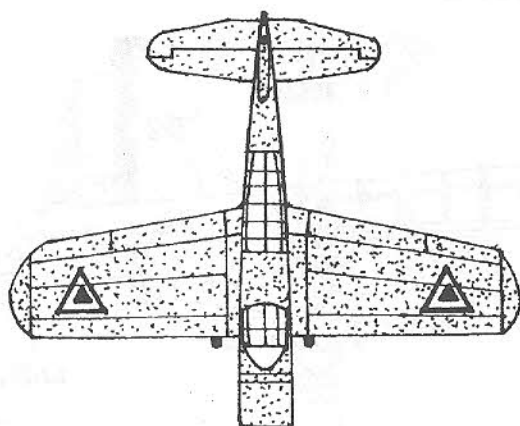


3. OS2U-1, FAM OZS-4503 (SP.1720) AIR SQUADRON 206.
COZUMEL, QUINTANA ROO. 1954



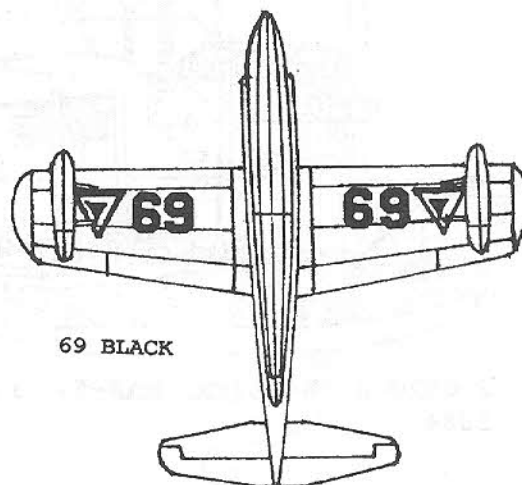
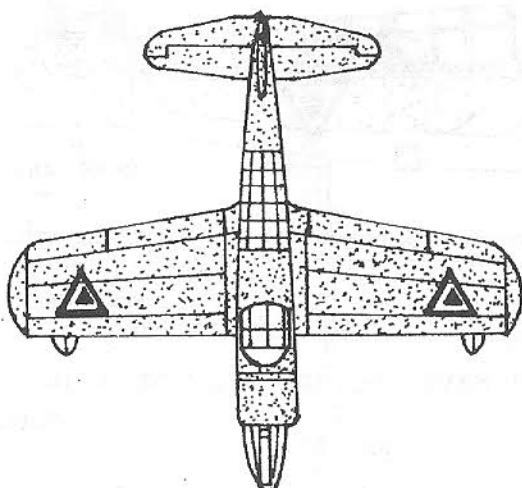
ROBERTO VARGAS C. SAFCH-386. 08/06.

VOUGHT-SIKORSKY "KINGFISHER" IN MEXICAN AIR FORCE



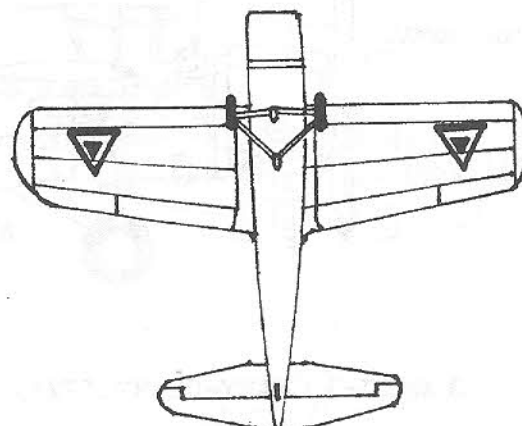
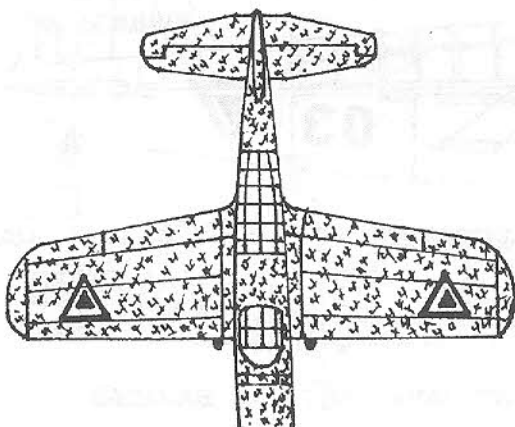
74 BLACK

1. OS2U-3, FAM-74 (SP.5724) AIR SQUADRON NUMBER 1.
ENSANADA, CALIFORNIA. APRIL 1942



69 BLACK

2. OS2U-3, FAM-69 AIR SQUADRON 202. PUERTO CORTEZ,
BAJA CALIFORNIA SUR. DECEMBER 1943.

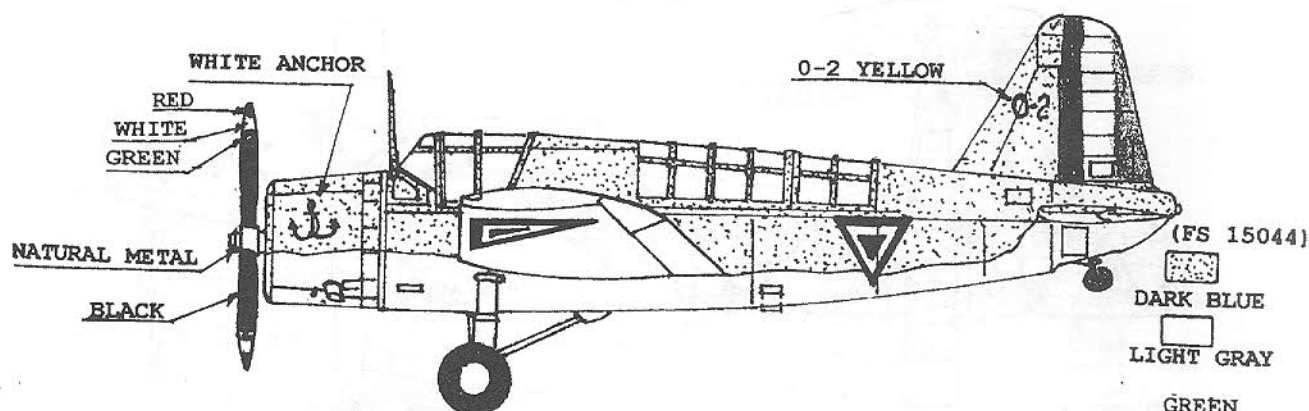


3. OS2U-1, FAM OZS-4503 (SP.1720) AIR SQUADRON 206.
COZUMEL, QUINTANA ROO. 1954.

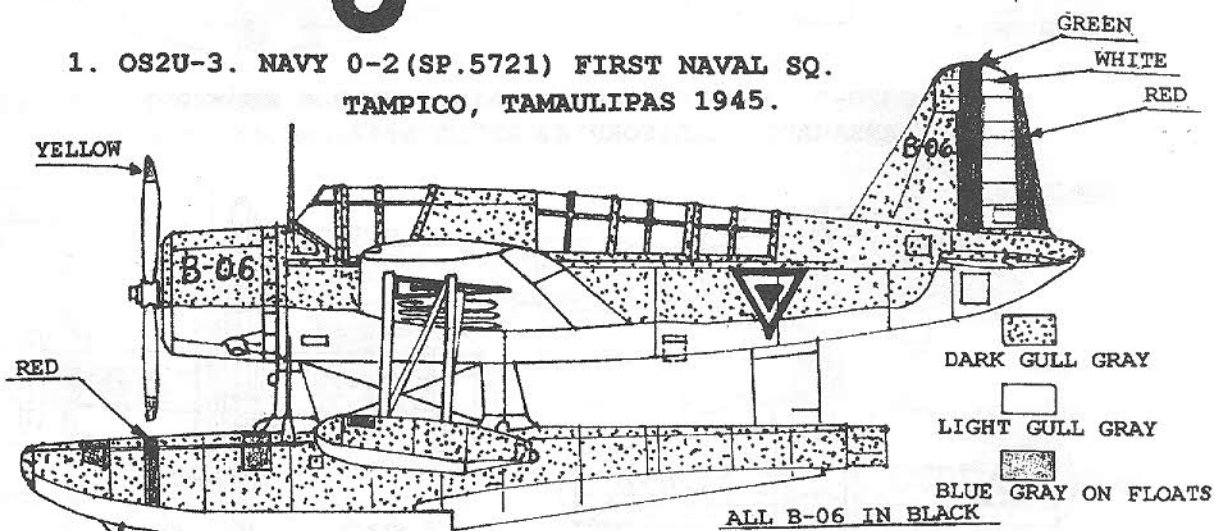


ROBERTO VARGAS C. SAFCH-386. 08/06.

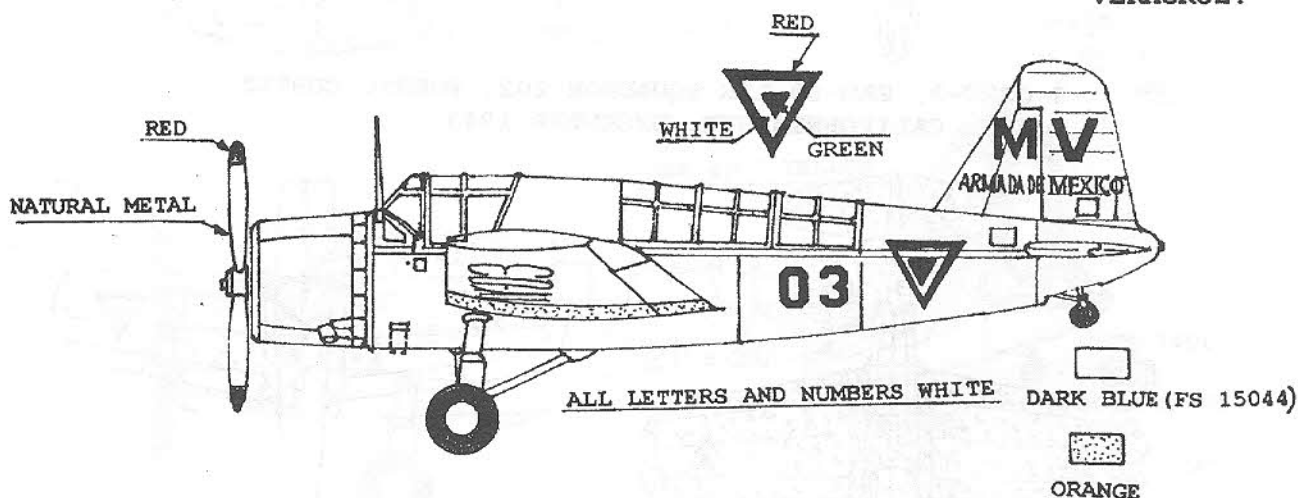
VOUGHT-SIKORSKY "KINGFISHER" IN MEXICAN NAVY



1. OS2U-3. NAVY 0-2 (SP.5721) FIRST NAVAL SQ. TAMPICO, TAMAULIPAS 1945.



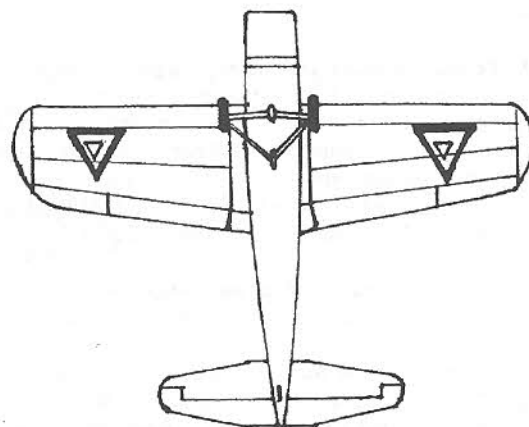
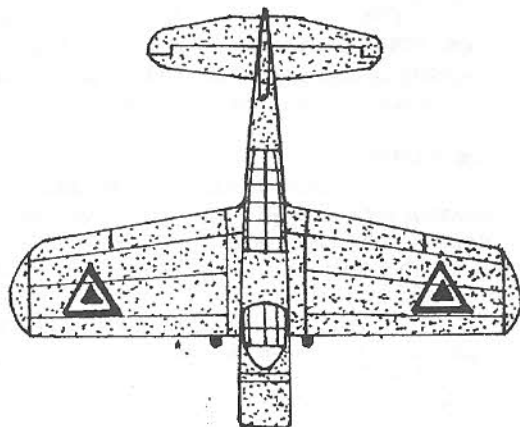
2. OS2U-3. B-06 (EX. MAF-69) FIRST NAVAL SQ. SAN JUAN DE ULUA, 1944. VERACRUZ.



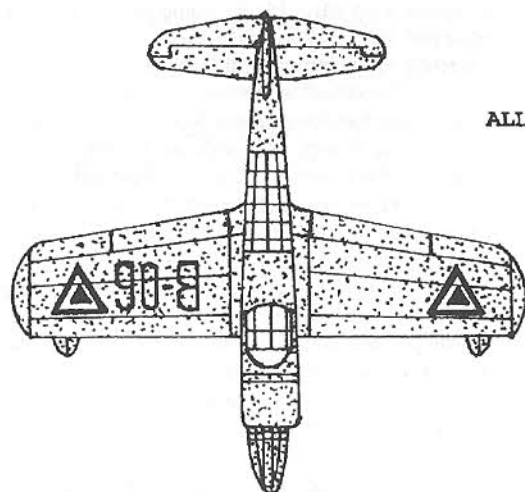
3. OS2U-3. NAVY-03 (SP.5725) FIRST NAVAL SQ. LAS BAJADAS, VERACRUZ 1950.

© ROBERTO VARGAS C. SAFCH-386. NOV./06.

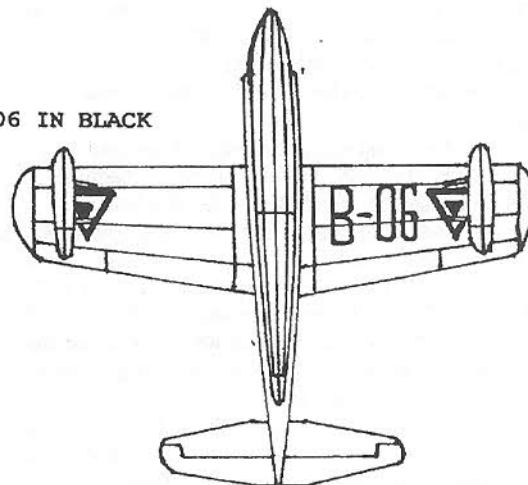
VOUGHT-SIKORSKY "KINGFISHER" IN MEXICAN NAVY



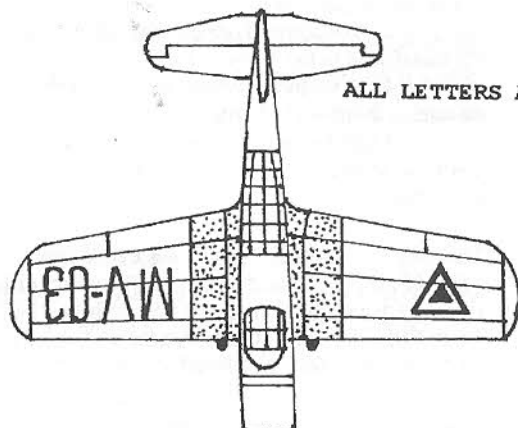
1.OS2U-3. NAVY 0-2 (SP.5721) FIRST NAVAL SQ. TAMPICO, TAMAULIPAS 1945.



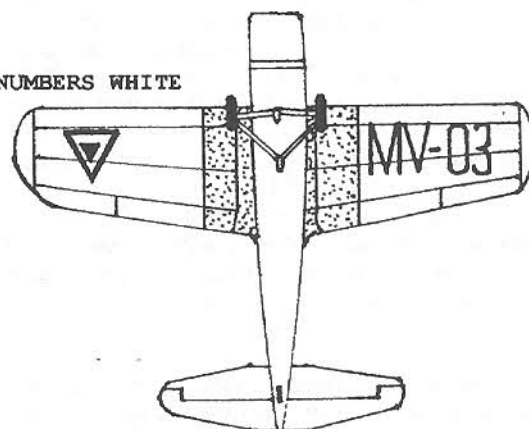
ALL B-06 IN BLACK



2.OS2U-3. B-06 (EX. MAF-69) FIRST NAVAL SQ.SAN JUAN DE ULUA, VERACRUZ. 1944.



ALL LETTERS AND NUMBERS WHITE



3.OS2U-3. NAVY-03 (SP.5725) FIRST NAVAL SQ. LAS BAJADAS, VERACRUZ 1950.

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Squadrons of the Indonesian Armed Forces

Mike Mirkovic

[Author's note: This is a summary of an ongoing research project. Any additional information, especially on TNI-AD (Army) and TNI-AL (Navy) squadrons, i.e. formation dates, bases, etc. would be welcome.]

TNI-AD - Tentara Nasional Indonesia - Angkatan Darat

The Army has two squadrons of which one is equipped with helicopters while the other is still flying light aircraft and probably helicopters. (Information is still needed on bases, current aircraft and squadron numbers.)

Aircraft known to serve the TNI-AD: Bell 205A & 212; Sikorsky S-58T; Cessna L-19A (?); Bo-105 and probably Bell 412.

TNI-AL - Tentara Nasional Indonesia - Angkatan Laut

The Navy has five numbered squadrons which are all based at Surabaya on Java.

Skwadron 200: A training unit equipped with Bo-105 helicopters, TB-9 Tampico and F-33 Bonanza aircraft.

Skwadron 400: An operational support unit equipped with Wasp, SUPER Puma, Bell 412, Bo-105 and Alouette II (?) helicopters. It operates from ships and ashore as required.

Skwadron 600: A fixed-wing support unit equipped with NC-212 transports.

Skwadron 800: A Maritime surveillance unit equipped with CN-235M and Nomad Search Master "B" and "L". It is often deployed to forward operational based.

Skwadron 900: This is the maintenance unit.

TNI-AU - Tentara Nasional Indonesia - Angkatan Udara

The Air Force currently has 16 active squadrons. Inactive squadron which may be re-established are also listed.

1.Skwadron: It was formed at Halim (near Jakarta) in 1950 and equipped with B-25's. Moved to Abdulrachman Salen (near Malang) in 1958. Received B-26 Invaders in 1959 which were used with B-25 until the latter were finally retired in 1976. Continued using B-26's until stood down in 1977, but the B-26's were used in Timor until 1979. Also, the Tu-2's received from China in 1959 were allocated to this squadron but they were never used operationally. Reformed in 1989 with OV-10F Broncos which were transferred from 3.Skwadron and is currently based in East Java and are use din operations in Aceiy, Irian Jaya and Timor.

2.Skwadron: Also formed at Halim in 1950 and used C-47's. It is used in the tactical transport role and is currently equipped with Fokker F.27, CASA/IPTN CN-235 & CN-235M.

3. Skwadron: Formed at Halim in 1950 and was equipped with P-51D and AT-6G which were used until 1975 when the AT-6 were finally grounded. Re-equipped with OV-10F Broncos in 1976 and used them until these were transferred to 1.Skwadron in 1989, when they were re-equipped with F-16A/B. Currently based at Iswahyudi (near Madiun in central Java. Saw operational service in Irian Jaya and Timor using OV-10F.

4.Skwadron: Formed in 1950 at Halim as a liaison and light reconnaissance squadron equipped with Austers and later with DHC-3 Otters. Moved to Abdulrachman salen in East Java in the 1980s and is currently equipped with CASA/IPTN CN-212 and is used in logistic training and command/control support tasks.

5.Skwadron: Formed in 1950 at Abdulrachman Salen equipped with PBY-5 which were used in the maritime patrol role. Re-equipped with UF-1 ALbatross from Canada in December 1957. More Albatrosses (SA-16B) were acquired in 1976. Also flew SAR patrols. Moved to Ujung Padang, southern Sulawesi in the early 1980s. Currently equipped with

Boeing 737 Surveillance and CASA/IPTN CN-235MPA (3 of each) with more CN-235MPA on order.

6.Skwadron: The air forces first helicopter squadron. Formed in June 1957 at Atang Sanjaya, near Bogor, and was originally equipped with Bell 47G. It received Mil Mi-4 in the early 1960s, also used Sikorsky S-48 which were obtained in 1962, Still uses S-58 but S-58T version and also used IPTN-assembled Pumas.

7.Skwadron: Another helicopter squadron was originally equipped with Bell 47G, Bell 203 & Sikorsky 61 helicopters. Based at Kalijati and currently uses Bell 47G and McDD/Hughes 500. Also possible Bo-105 used in the reconnaissance and liaison role. Formation date unknown.

8.Skwadron: Formed in 1962 at Atang Sanjaya and equipped with Mil Mi-6 helicopters. Currently it used IPTN-built Super Pumas. Primary tasks are troop transport, logistic support and SAR.

11.Skwadron: Formed at Iswahyudi in 1056 with DH-115 Vampires. Re-equipped with MiG-15UTI in 1050 and received MiG-17 later. In 1973 it re-equipped with T-33A and used these until 1980 when A-4 Skyhawks were acquired. Currently based at Hasanuddin AFB, Ujung Pandang.

12.Skwadron: Also formed at Iswahyudi in 1962 and equipped with MiG-19, Re-equipped at Iswahyudi in 1962 and equipped with A-4 in 1980 and based at Pekan Baru, Sumatra. Currently re-equipping with BAe Hawk 100/200.

14/Skwadron: Originally formed in July 1963 with MiG-21 and based at Kemayoran. Re-equipped with CAC Sabre 32 in 1973, which in turn were replaced in 1980 with Northrop F-5E/F Tiger II and is currently based at Iswahyudi.

15.Skwadron: Formed in August 1963 at Halim and was equipped with Lockheed C-140 JetStars as a VIP squadron. It used a variety of aircraft until 1983 when it started to receive new aircraft for its VIP role. Currently equipped with Boeing 707 (1), C-130H (2), F-28 Fellowship (1), F-27 Friendship (2), Super Pumas (2), and two modified VVIP/VIP Super Pumas. Also used in the airborne command and control role.

31.Skwadron: Formed at Halim in 1960 with C-130B and used in the strategic transport role. Still uses C-103B along side C-103H.

32.Skwadron: Formed in 1963 with Antonov An-12B at Abdulrachman Salen. Currently equipped with C-130H which were acquired in 1982. Also a strategic transport squadron.

Disbanded Squadrons

21.Skwadron: Formed with Illuysin Il-28 in June 1960, but transferred to the Navy in 1963.

41.Skwadron: Formed in 1960s with Tu-16 bombers and disbanded in the early 1970s.

42.Skwadron: Formed in the early 1960s with Tu-16K maritime reconnaissance and attack bombers, also disbanded in the 1970s.

Training Squadrons - No.1 Wing Pendidikan

101, 102, & 104 Skwadrons: 103 Skwadron disbanded when its Hawk 53 were transferred to 15.Skwadron. 104.Skwadron is the ground training unit. 101.Skwadron uses the FFA AS202 Bravo while 102.Skwadron uses Beech T-34C.

References used are too numerous to mention but include a variety of magazine, photos, and personal contacts. I wish to thank all involved and I have personally done so over the years.

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PARAGUAYAN AIR FORCE PZL 104 WILGA

Antonio Luis Sapienza Fracchia

In the first trimester of 1996, the then Commander of the Paraguayan Air Force General César Kramer and the Minister of Defense of Paraguay, Hugo Estigarribia, visited the PZL factory in Warsaw, Poland. There, they had the opportunity to see all the airplanes and helicopters manufactured by PZL.

Some months later, Captain Alex Hinczak, director of Trophy Resources Ltd., representative of PZL in Latin America, took a couple of PZL 104 Wilga 80s and a Turbo Kruk to Asunción, Paraguay for some flight demonstrations, which took place at the Ñu-Guazú Air Force Base on 6 July 1996. General Kramer and many top-rank FAP officers showed their interest in the Wilga for the GATE (Special Transport Air Group). The government then decided to acquire both demonstrators for the FAP.

The planes were immediately incorporated into the GATE, where they received the following serials:

FAP 0224: c/n 21940945. It was built in 1994 and made its first flight on 10 December 1994. It was scheduled to be exported to Chile, but it was not delivered. In October 1995, the American registration N104AD was painted on this plane, but it was never officially registered in the US. It was then registered as SP-WDL on 9 March 1996 to PZL Okecie. Although this registration was cancelled in 1996 year, this plane used it for many years in Paraguay, due to some legal problems related to payment. The FAP serial 0224 was never painted on the plane. During a training flight in 2000, this plane was damaged during a hard landing at Ñu-Guazú AFB in Luque, where one of its landing gear legs and the propeller were damaged. Since there were neither funds nor spare parts, it was withdrawn from service. In 2006, it was painted in overall red (including the windshield and windows!!) to be preserved as a Gate Guardian at Silvio Pettrossi Air Force Base in Luque. [Ed: I'm glad Antonio didn't include a photo of this paint job. It would have been too sad.]

FAP 0225: c/n 21950960. It was built in 1995 and made its first flight on 10 March 1995. It was registered as SP-WDM on 13 March 1996 to PZL Okecie. Although this registration was cancelled on 9 October 1996, this plane used it for many more years. Because of some legal problems, this Wilga never received the assigned FAP serial 0225. During its last years of service, all the Polish marks were covered with large

RESCATE (RESCUE) and SAR titles, as it can be seen in the photos included with this article. It was officially withdrawn from use in 2005, because of the lack of spare parts (Why didn't they use the parts of FAP 0224?). It is stored at Ñu-Guazú AFB at present.

Both FAP Wilgas were mainly used as light transport planes, medevac and liaison missions. They were the first Polish planes in service with the FAP and also the first in Paraguay.

The FAP Wilgas were painted in overall white with red cheatlines along the fuselage. The wing tips were also painted in red as well as the edges of the vertical stabilizer. A tiny Paraguayan flag was painted in the vertical stabilizer. For many years, the Polish registration continued to appear in black letters in the vertical stabilizer and in two wing positions. In one of the Wilgas (SP-WDM), the Polish registration were covered with large RESCATE (RESCUE)/SAR titles painted in black letters on a bright orange background. The top of the engine cowling was painted black. The propeller was silver with yellow tips. No FAP roundels were ever painted on these planes.

For the modeler, there is a very nice plastic kit manufactured by *Amodel* in 1/72 scale (Ref. Nr. 7232) that can be built and painted as a FAP Wilga.

Acknowledgements: The author would like to thank his friend Tony Morris, an expert in Polish Aviation in England, for the precious information on the FAP Wilgas.

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E-mail: asapienza@ccpa.edu.py.

Captions for photos on page 2. (All photos by the author unless otherwise noted.)

1. Wilga SP-WDL: This picture was taken in the GATE Hanger at Ñu-Guazú AFB in 1997.
2. Wilga SP-WDM: This picture was taken at Ñu-Guazú AFB in 2005.
3. Wilga 1: ex SP-WDM with RESCATE/SAR titles at Ñu-Guazú AFB in 2005. Photo: Daniel Romero.
2. Wilga 2: Same as above.

An Incident in the Ecuador-Peru Border War Quebrada Seca - July-23-1941

Cap. Jorge Delgado P.

In the summer of 1941, the disagreement between Ecuador and Peru over their mutual boarder reached the boiling point and as a consequence armed conflict broke out. The place in contention was a space of land between the tideland of Aguas Verdes and the Zarumilla River, at short distance (approximately half kilometer) to the west of Huaquillas. On the morning of 5 July 1941, an Ecuadorian border patrol from the battalion "Cayambe" was making their usual rounds when they found a group of Peruvian peons in the vicinity of "Bramador", inside the Ecuadorian territory, carrying out agricultural work protected by Peruvian civil guards. When the Peruvian guards sighted the Ecuadorian army truck, they open fire wounding one of the soldiers inside. Thus started what in history is called the Conflict of 41.

This small preamble is meant to describe how this conflict started. The real purpose of this article is to analyze one individual action that took place during this conflict - the shooting down of one of the belligerent planes by ground fire on 23 July 1941 at Quebrada Seca, Ecuador.

First, let us consider the battle field: The tideland of Hualtaco lie to the north, and the island of Alto Matapalo to the south. The area is denominated by "Noblecilla" to the south. This land is totally covered with a forest of low trees that become higher and denser as you advance toward the east of the river Zarumilla. The only high elevation is at the island of Matapalo at the western margin of the river. This area is covered with trees and thick foliage.

Border Skirmishes

The conflict grew in intensity as the days went by until on 23 July the Ecuadorian positions were attacked at dawn. The defenders offered a tough resistance forcing the first wave of Peruvian troops to withdraw. The Peruvian then made a second charge, this time supported by mortars and machine guns.

At the sector headquarters at Quebrada Seca, the Battalion "Montecristi", was attacked by numerically superior Peruvians forces with air and artillery support. They were able to cause a partial collapse of the Ecuadorian lines when a company of customs officers "Guayas", lacking of combat training, dispersed leaving a hole in the defenses. This was taken advantage by the

enemy who penetrated the defenses and to tried to spread their soldiers to the sides. However, the penetration was limited and was contained by the Ecuadorian infantry forces.

To support the Peruvians in this action, they called for air support. Four North American NA 50 with eight bombs each took off at 0750 with instructions to bomb and strafe the Ecuadorian positions. They adopted a wedge formation at 6000 feet first heading for the city of Zarumilla before veering in the direction of Quebrada Seca.

Lieutenant Major Antonio Alberti Bonino, in the NA-50 XXI-41-1, sighted the objective and ordered "attack formation to the right, arm machine guns and bombs, and dive toward the target." Lieutenant Pareaud, in NA 50 XXI-41, attacked - dropping his bombs and machine gunning the target. In return, he received light rifle fire which make pieces of metal skin fly off the wings.

This attack demoralized the men of the Battalion "Carchi" that consisted mostly by "green" recruits with little military training. However, not all of them were inexperienced. Among the soldiers were officers who had graduated from the Military Academy "Eloy Alfaro". When the next plane took his turn to make a bomb run, in the trench waiting for him was Lieutenant Daniel Pantoja Estrada who was an excellent marksman. From the beginning of the air raid, he had continually fired his 7.9-mm Mauser rifle against the attacking planes, but without any apparent hits.

Peruvian Plane Down

The third plane descended lower than the others. Before the plane discharges its bombs, Lieutenant Pantoja began shooting. Immediately, the engine of the attacking plane began to emanate dense smoke. Excellent aim, or a lucky shot!, We will never known. What we know it is that, after the hit, the motor lost power and the engine began to make unusual noises. The plane then caught fire and lost altitude. The Ecuadorian troops on the ground followed the trajectory of the wounded plane until it disappeared inside the forest. A loud explosion was heard followed by a column of smoke marking the place of impact within Ecuadorian territory.

The whole front erupted in cheers and hurrah!. The shooting down of the fighter lifted the morals of the soldier in the front lines that heretofore has been low. Now the enemy knew that their warplanes were not invincible.

The pilot of NA 50 XXI-41-4, who was flying behind the doomed plane observed flames beginning to engulf the fighter, a signal that it was hit in a vital part. The fire was out of control and the smoke got denser as the plane began to fall. The other three Peruvian pilots expected to see a parachute, but the plane was too low, wrapped in smoke and flames, as it passed over the Ecuadorian lines and crashed on the other side of the forest, exploding with a loud noise because the plane still had its bombs attached.

The rest of the squadron had received intense ground fire during the attack. The wings of most of the planes showed impacts, one plane had between 15 to 20 bullet holes. NA 50 XXI-41-3) did not return.

From the analysis of the declarations of witness and from publications in newspapers and books we can elaborate the following hypothesis of what happened that day:

It is very probable that the bullet that Pantoja shot struck a vital part of the motor. The hit probably cut the gasoline line supplying the power plant allowing the fuel to pour on top of the hot cylinders, acting as the source for the fire. When the engine started to receive little or no fuel the motor began to run erratically. For that reason, the witness said the plane "snored" while was emitting smoke. There were no clear spaces on the Ecuadorian side for the pilot to make an emergency landing and the plane crashed into the dense forest.

Aftermath

As the end of July approached, the Peruvian air attacks became more intense. Mauser rifles and ZB machine guns were the only weapons the Ecuadorians had for defense. The Ecuadorian ground troops looked to the sky everyday in the hope of seeing Ecuadorian fighters challenge their aggressors, but nothing happened.

Major Jorge Paez Mena, who was in charge of the only Ecuadorian fighter squadron available, sent a communication to the Minister of Defense in which he requested authorization to send to the only three planes that Ecuador had (Curtiss Wright-19R "Sparrows" numbers 50, 51, and 53) with voluntary pilots to face the Peruvian flyers. The following is a translation of the essence of the letter:

"...I ask for, the honor of commanding the squadron of the three training "Sparrows", with two other volunteer pilots, the same ones who will lose their lives

because of the enormous difference in power, speed, maneuverability, and volume of fire of our planes in relation with our foes,... If worse comes we will ram their planes to destroy at least one of the Peruvian fighters." The answer was that the request was rejected because it was too dangerous and the planes were needed for other tasks.

The situation at the front was desperate. The Peruvian planes continued to bomb the Ecuadorian troops in the forest who were able only to resist weakly. This continued until the Talara agreement which was signed on 2 October 1941 putting an end to the hostilities.

The task of the reconstruction of the cities destroyed by the bombs began by the recovery of the bodies of the fallen from the common graves in which they had been buried at the battle fields. The remains of unknown soldiers were deposited in a urn at the "Temple de los heroes" at the Military Academy Eloy Alfaro in the city of Quito which has a 24 hour permanent honor guard.

A few days after the Peruvian was shot down, its remains were taken to Quito for exhibition as proof of the aggression on the south border.

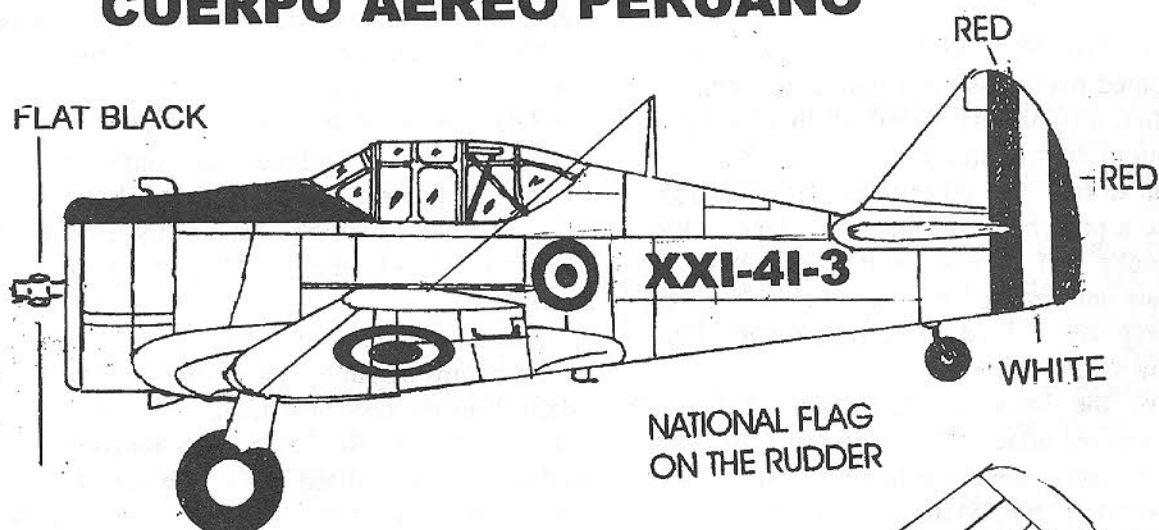
The remains of the Peruvian pilot, Lieutenant Jose A. Quiñones, were returned to the Peruvian authorities on 18 October 1942, fifteen months after the shooting down of the NA 50 XXI-41-3.

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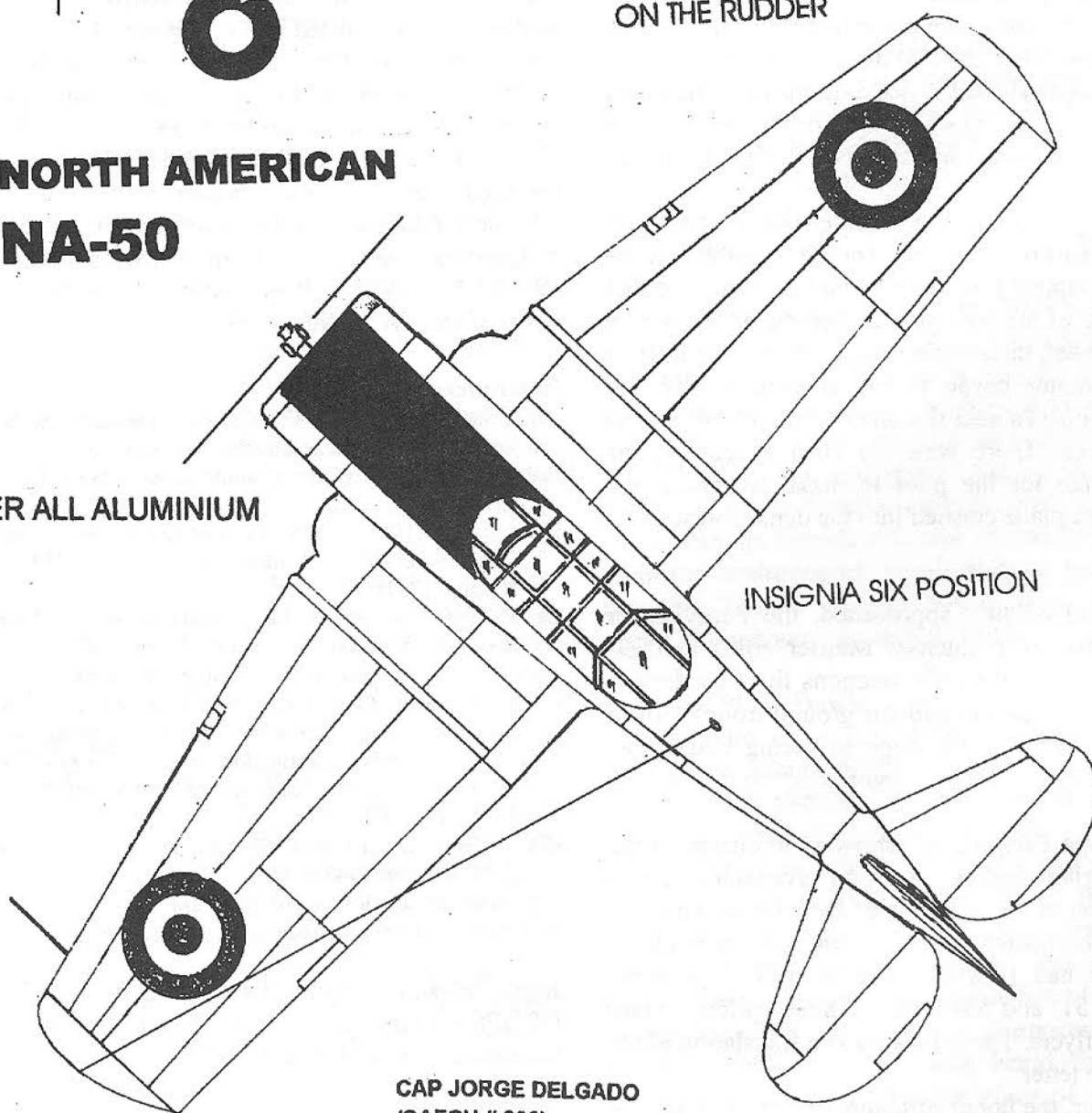
Jorge Delgado P. (SAFCH #862), PO Box 2207 – URDESA, Guayaquil, Ecuador. E-mail: brazadasalviento@hotmail.com

CUERPO AEREO PERUANO



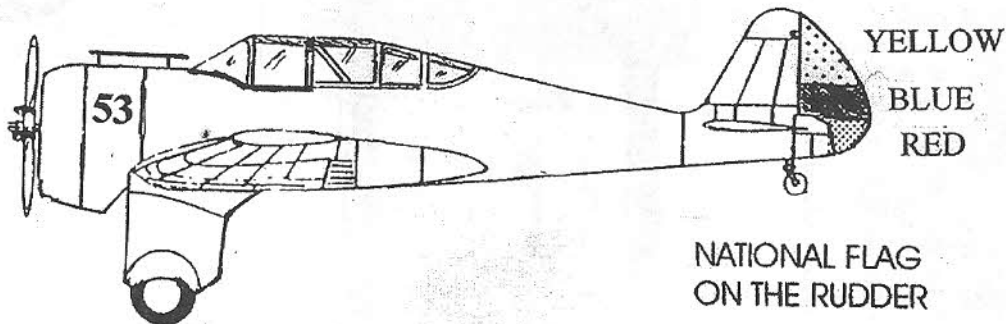
NORTH AMERICAN NA-50

OVER ALL ALUMINIUM



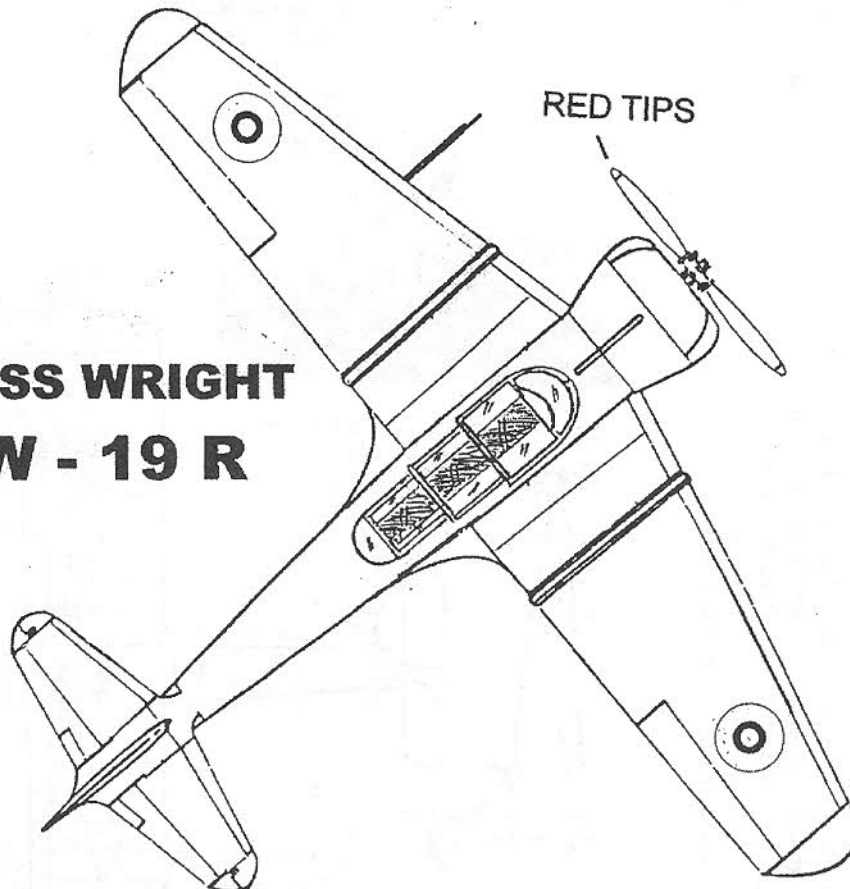
INSPECTORIA DE AVIACION DEL EJERCITO ECUATORIANO

BLACK NUMBERS



ENTIRE PLANE BARE METAL

**CURTISS WRIGHT
CW - 19 R**



MARKINGS ONLY TOP OF THE WINGS

CAP JORGE DELGADO P.
(SAFCH # 862)

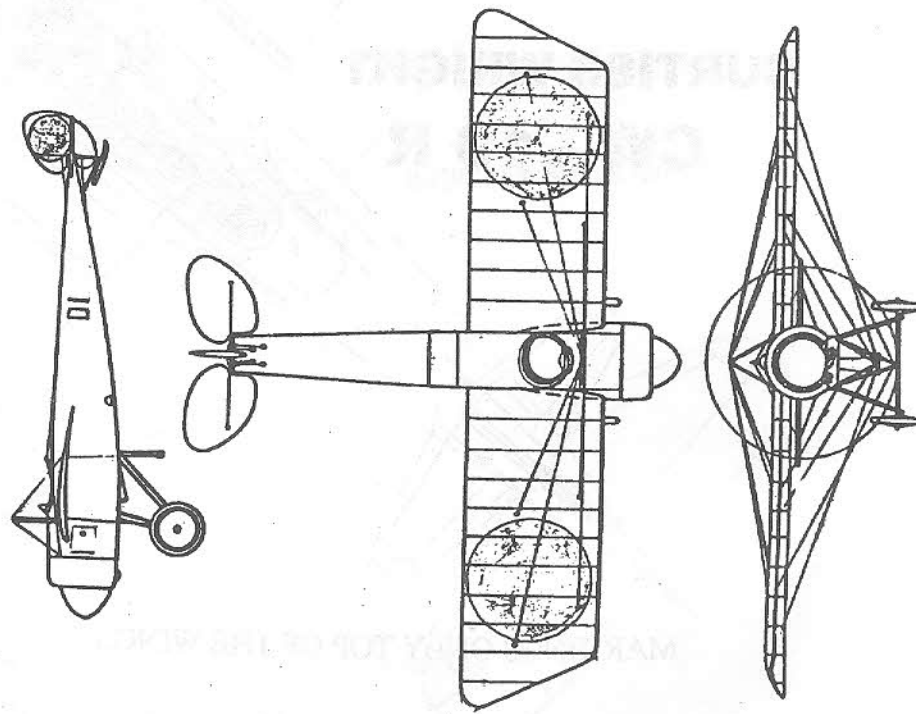
Thulin K

Dutch Naval Flying Detachment, De Kooy, 1917

Fifteen of this Swedish-built version of the Morane Saulnier Type H were acquired by the Netherlands in 1917.

This plane can be converted from Revell's really old 1/72-scale Fokker E.III plus some parts (spinner, cowlings, etc.) from the spares box. Finish is linen over all with wooded front panels and natural metal cowlings and spinner. The undercarriage is either wood or painted black. There is a black border on the fuselage's corners and around the vertical and horizontal tails. Markings consist of orange discs in six positions and a black serial on the fuselage.

Lennert Andersson (SAFCH #68).



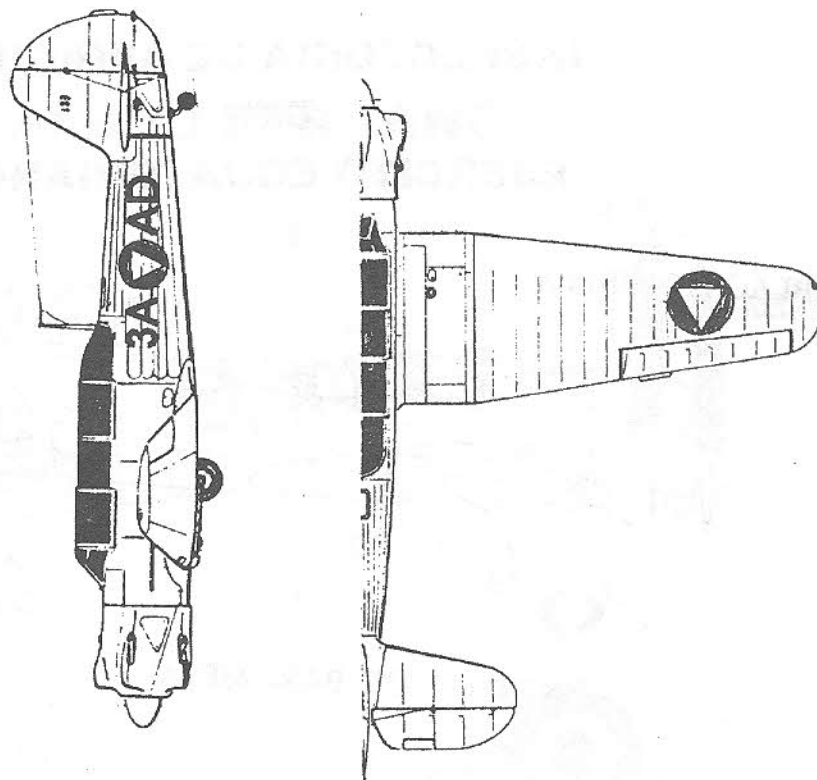
Austrian Yak-18

The USSR gave four Yakovlev Yak-18 trainers as a present to Austria in 1955. They were used until 1960 by the Air Base Command at Langenlebam and Flying Training Coy. 2 at Hoersching.

Standard Soviet finish of green upper and light blue under sides, Austrian national insignia of white triangles on red discs were applied in the standard six positions. Further markings consisted of black serials on the fuselage sides and construction numbers of the same color on the fin. Individual combinations were: 3AoAA (113); 3AoAB (127); 3AoAC (133); and 3AoAD (133).

Note: On one photo it looks as if the top of the fin is a different color - red?

Nils Treichel (SAFHCH #1467).



Air Power of the Kingdom of Bulgaria, by Dimitar Nedialkov. Four volumes.

I ran across these books quite by accident. While perusing the sales list in the French magazine *Avions* I happened upon the title, *Bulgarian Fighters, Part 1*. On a whim, I decided to see if it was available from amazon.com. Much to my surprise it was and I immediately ordered it on line. When it arrived I was pleasantly surprised at the wealth of information and the high quality of the publication. Inside was an order form for ordering directly from Bulgaria (via a US contact) a four volume set of the history of Bulgarian military aviation. These volumes were available for \$7.00 each, or \$25.00 for the four-volume set. I ordered the complete set. After a few weeks they arrived and I was not disappointed. I will review these four volumes now, and leave the reviews of the two volumes on *Bulgarian Fighter* to the next issue of SAFO.

The four volumes of this set are very similar in format. Each consists of 60 A-4 size glossy pages in landscape format bound between durable glossy limp covers. The only color is the front and back covers. There are many large high-quality photos. The text and photo captions are in parallel Bulgarian and literate English. The four volume set comes in a colorful slipcase.



Air Power of the Kingdom of Bulgaria, Part 1: 1892-1913.

This volume covers the Bulgarian aerial participation in the two Balkan wars when balloons and aircraft played equally important roles. An appendix lists the following aircraft in use by the Bulgarian military (with number acquired in parenthesis): Blériot XXI (1), XI (1), Xibis (4), XI-2 (2), XI-2bis (7); Voisin (1); Sommer (1); Albatros FIII (4); Bristol (1); Farman VII (5); and Nieuport IV (2). There are 53 photos, a map of Bulgaria during each of the two Balkan Wars (unfortunately, the place names are in Cyrillic script – the only place the translation let you down, and a very detailed multi-view scale drawing of the seldom-illustrated Albatros FIII. The color front cover painting shows the Albatros FIII in flight along with a spherical free-flight balloon, while the back cover is a color 3-view drawings of a Blériot Xibis (devoid of national markings as was the norm for Bulgarian aircraft of this period.).



Air Power of the Kingdom of Bulgaria, Part 2: 1914-1918.

This volume covers Bulgarian aviation during WWI. The Appendix lists the following aircraft (and the numbers acquired): Albatros B-I (2), C-III (18); LVG C-II (17); Otto C-I (13); DFW C-V (6); Roland D-II (6), D-III (6); Fokker E-III (3), D-VII (8); Friedrichshafen FF.33c (6), F.33L (2); Rumpler 6B-1 (2); Armstrong Withworth FK8 (1); and Nieuport XXIV (1). There are 78 photos, one map (again with place names in Cyrillic script). The color front cover shows a Bulgarian Roland D-II forcing the RAF FK8 to land. The back over is a color 3-view drawing of a Roland D-II. All Bulgarian aircraft carry German formée crosses.



Air Power of the Kingdom of Bulgaria, Part 3: 1919-1939.

This volume covers the period between the wars when military aviation was banned by the victorious Allies. However, military aviation was clandestinely resurrected. At first all Bulgarian military aircraft carried the civil registration "B-" or the later "LZ-". However, when Bulgaria openly obtained modern military aircraft such as the Do-11, He 51, and P-11 the colorful national insignia consisting of a red cross with crossed swords announced the rebirth of the Bulgarian Air Force.

Aircraft acquired during the interwar period were: Potez VIII (2), XVII (6); Caudron S-59 (3), 440 (1); Bristol Lucifer (1), 28A (4); Hanriot XIV (2); Avro 522 (1); Šmolik Š-18 (12); Macchi 18/2000 (1); Junkers F-13 (2), K-23 (1), W-34 (1), Ju-52/3m (2); Albatros L-73 (2); Fw A-20 (1), Fw-58B/E (4), Fw-56 (6), Fw-44 (6); Heinkel He-42 (2), He-45B (12), He-51B (13), He-72 (6); Dornier Do-11 (12); Arado Ar-65 (12); PZL-24B (45), PZL-43B (45); Avia B-534 (32), B-71 (32); Letov Š-328 (60); Bloch MB-200 (12); Aero A-304 (1); PWS-26 (1). A second table provides details of the 16 aircraft types designed and manufactured by the DAR (National Aeroplane Workshops) and the 6 types designed and manufactured by the Bulgarski Caproni Factory.

This volume has the shortest text of the set (8 pages). The remaining pages are devoted to photos: (137 of them) many full page, but never more than four to a page. A map shows the disposition of the Bulgarian Air Force at the end of 1939.

The front cover is a color painting of a pair of DAR-3 *Garvan* in flight. The back cover is a color painting of a KB-11 *Fazan* flying alongside a DAR-10.



Air Power of the Kingdom of Bulgaria, Part 4: 1940-1946.

This volume covers the period that is probably the best well-known to western enthusiasts. The text goes into great detail on the interceptions by Bulgarian fighters of USAAF B-24s and B-17 going to and coming from raids on Romanian oil fields. The series ends with a description of the activities of the Bulgarian air force against the Germans after Bulgaria changed sides near the end of the war.

Aircraft listed in the Appendix are too numerous (and too familiar) to list here. Suffice it to mention that 27 different types are described.

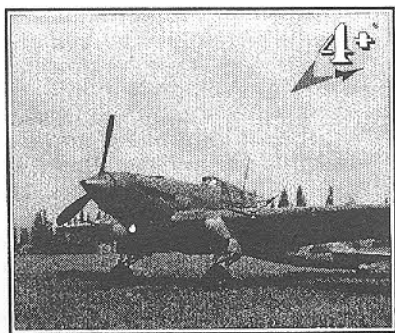
There are 85 photos all well reproduced and of a satisfactory large size. A map shows the distribution of the Bulgarian Air Force in August 1944.

Almost all of the aircraft depicted in this volume carry the familiar black cross used by the Bulgarian Air Force during WWII. However, for the enthusiast interested in unusual insignia there are photos of Bf 109G, Yak-9M, and Il-2 carrying the short-lived post-war roundel with the horizontal green bar.

The front cover is a color painting of a trio of Bulgarian Bf 109 attacking a USAAF B-24. Inside, there is a b&w painting of a Bulgarian D.520 from 2/6 Fighter *Orlik* attacking a USAAF B-17 on 10 January 1944. The back cover is a color painting of a Bulgarian Ju 87 shooting down a Fw 190 of their former German ally.

These books are highly recommended to all small-air-forces enthusiasts. Not only are they well done and inexpensive, but they provide a wealth of information on the Bulgarian Air Force. I particularly found them useful in tying together in a coherent fashion the bits and pieces I had collected over the years. The translator deserves special praise for the high quality of the English text.

These books can be ordered directly from their website: www.Bulgaria.com, or you can send a check for \$25.00 to: Boyan Savov, 1301 Wild Olive Dr., Mount Pleasant, SC 29464, USA. (In case you're not willing to wait for the reviews of the *Bulgarian Fighters*, these two volumes are available from Boyan Savov at \$18.00 each.)



Ilyushin Il-2 Shturmovik

Il-2 Type 3, Il-2 Type 3M, Il-2KR, UII-2

world war II wings
line
1/72 scale plans

Ilyushin Il-2 Shturmovik: Il-2 Type 3, Il-2 Type 3M, Il-2KR, and UII-2. "World War II Wings Line". 4+ Publication #022. Published by 4+ Publishing Co., PO Box 10, 100 31 Prague 10, Czech Republic. 40 A-4 size glossy pages. Softbound. (2006) Text and photo captions are entirely in English. ISBN 80-87045-00-9.

The Ilyushin Il-2 Shturmovik, the iconic aircraft of the Great Patriotic War, was built in large numbers – 22 thousand were delivered during 1943-44. Losses were equally staggering – 6,800 were lost in the same period.

Officially no suffix designations were assigned by the Soviets; they were referred to only as the Il-2. The authors of this monograph get around the identification problem as follows: "The Ilyushin Il-2 variant designations used within this publication have been simplified to make it easier to describe them. For the purpose of our narrative, the designations are as follows: Il-2 ↔ single-seater; Il-2M ↔ two-seater with straight wing; Il-2 Type 3 ↔ two-seater with swept-back wing; Il-2 Type 3M ↔ two-seater with under-wing NS-37 cannons; Il-2KR ↔ two-seat artillery spotter and reconnaissance aircraft; UII-2 ↔ two-seat trainer." This monograph deals only with the swept wing versions.

Besides Russia, the Shturmovik saw service with the air arms of Czechoslovakia, Poland, Bulgaria, and Mongolia. All these are covered in with history, photos, and color drawings – except Mongolia.

The presentation follows the usual excellent 4+ format: 1. A color photo on the cover. 2. Three pages of densely packed text covering history and technical aspects. 3. Ten pages of contemporary photos of the aircraft (54 photos). 4. Seventeen pages of exterior and interior details (117 photos including 33 in color, and 6 sketches. [Ed: How would you like to be the gunner with the canvas strap "seat" and no seatbelt?]). 5. A 2-page color pull-out poster of the recently-restored Il-2 Type 3 at Prague. 6. Three pages of color side- and top-view drawings [8 Russian plus one each in the markings of Czechoslovakia, Poland, Bulgaria, Yugoslavia, & the RAF (sic).] 6. A centerfold (4 pages) with 1/72-scale, multi-view drawings of all swept-wing variants. 7. A page of text on colors and markings. 8. Two pages on armament and equipment including 8 photos, 2 sketches, 1/72-

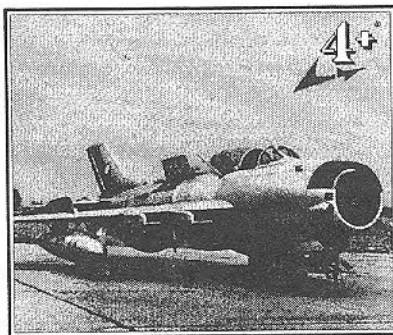
scale drawings (machine guns, rockets, rocket launchers, bombs, and belly tanks), a table of external stores variants, and a page of text.

The physical quality of this monograph, as with all 4+ books, is excellent with high-quality glossy paper, excellent reproduction of the photos both black & white and color beautiful color drawings, and outstanding 1/72-scale plans – all bound within a sturdy cover.

The 4+ monograph on the Ilyushin Il-2 is an invaluable addition to the library of all aviation enthusiasts and excellent reference for the modeler. The modeler with penchant for the small air forces will have a choice of building an Il-2 in the markings of Czechoslovakia, Poland, Bulgaria, and/or Yugoslavia. And, if you want to try a simple conversion, you can mold a new canopy to make a Soviet UII-2 trainer.

Oh yes; about that Il-2 in RAF markings. It's a post-war Czechoslovak aircraft that had British roundels painted on the fuselage to prepare it for its film role.

Review copy provided by Michal Ovcáčík of 4+ Publications.



MiG-19P

All-weather Interceptor variants
MiG-19P, PG, PM, PML
Shenyang J-6H, Nanchang J-6B,
Guizhou J-6IV

jet age wings
line
1/72 scale plans

MiG-19P: All-weather Interceptor variants; MiG-19P, PG, PM, PML; Shenyang J-6A, Nanchang J-6B, Guizhou J-6IV. "Jet Age Wings Line" 4+ Publication #021. Published by 4+ Publishing Co., PO Box 10, 100 31 Prague 10, Czech Republic. 36 A-4 size pages. Softbound. (2005) Text and photo captions are entirely in English. ISBN 80-900708-9-2.

The author begins with the following introduction: "This publication, the second volume dealing with the MiG-19 series of aircraft, is devoted to the radar-equipped variants. One of these models, the 'PM', was particularly important to the air forces of the former Warsaw Pact countries, as it introduced the first generation of radar-homing anti-aircraft missiles to their inventories. The MiG-19 all-weather interceptors were also 'cloned' in China, thus enabling their air force to be acquainted with these highly sophisticated pieces of equipment."

The usual 4+'s 3-page "history" segment describes each variant and their use in Soviet service and with "reliable" satellites" such as Czechoslovakia (27 P and 44 PM), Romania (15 P and 45 PM), Poland (24 P and 14 PM), Bulgaria (12 P and an unknown number of P and PM from

Poland), East Germany (12 PM), Hungary (12 PM), Albania (12 PM), and Cuba (12 P). After the dissolution of the USSR, radar equipped MiG-19 saw service in Azerbaijan and Armenia. Reports of MiG-19P in Guinea are unconfirmed.

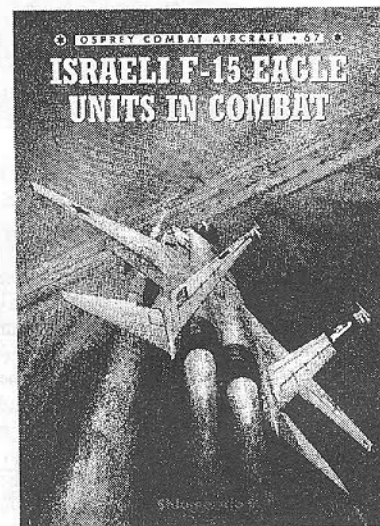
China purchased five MiG-19P as pattern aircraft for domestic production as the J-6A, J-6B, J-6IV. Most of initially-produced aircraft were defective and only after Russian specialists were brought in and several "sample" MiG-19PM were received from Albania were successful aircraft produced. Unlike the Chinese J-6C day fighter, which was exported to many countries under the designation F-6C, the radar-equipped Chinese MiG-19 were never exported.

The "history" section is followed by 11 pages with 56 photos (14 in color) of the aircraft; 5 pages of 1/72-scale multi-view drawings of all the variants including the Chinese versions; 3 pages of color side-view drawings [Soviet (4), Czechoslovakia (3), Poland (2), Bulgaria (1), Cuba (1), East Germany (1), Hungary (1), Romania (1), and China (4)], all in natural metal except one J-6IV which is overall Light Grey. There is a 2-page pullout poster of a Polish MiG-19PM and 12 pages of exterior and interior details with 70 photos (14 in color). There is a page of text on colors and markings and 4 pages on armament and equipment including 14 photos, a page of 1/72-scale drawings of external stores, a table "external stores variants", and a page of text.

The physical quality of this monograph, as with all 4+ books, is excellent with high-quality glossy paper, excellent reproduction of the photos both b&w and color, beautiful color drawings, and outstanding 1/72-scale plans – all bound within a sturdy cover.

The 4+ monograph on the radar-equipped MiG-19 is an invaluable addition to the library of all aviation enthusiasts and excellent reference for the modeler. The modeler with penchant for the small air forces will have a choice of the MiG-19 in markings of one or more of eight small air forces. If you want to try a simple conversion, the differences between the Chinese copies and the Russian aircraft are well described in the 1.72-scale plans.

Review copy provided by Michal Ovcáčík of 4+ Publications.



Israeli F-15 Units in Combat, by Schlomo Aloni. Osprey Publishing (Combat Aircraft No.67), edited by Tony Holmes, 2006. Softcover, 18.5cm by 25cm, 96 pages. ISBN 1 84603 047 1.

For the past 59 years the operations of the Israeli Air Force (formally the IDF/AF) have largely been cloaked in secrecy. Additionally that which has been related has been mystified by myth and misinformation (largely intentionally seeded by the Israeli IDF Security Department censors). Only when enough time has passed—enough to obviate the risk of exploitation by Israel's many enemies—have magazine articles and books appeared describing the valiant IDF/AF operations against great odds, but with great success. For the IDF/AF's F-15 force, enough time has finally passed that its story can be told, and prolific IDF historian Schlomo Aloni has done an excellent in doing so.

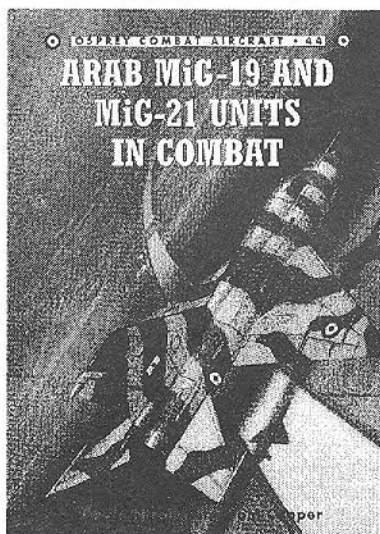
One Osprey's extensive line of "combat aircraft" books, this volume follows their tried-and-true format of 70 pages of text seasoned with 72 photographs (32 of them in color) and 8 pages containing 24 color profiles of F-15A/B/C/D/Is (plus 5 pages of captions), plus one page of squadron badges and three pages of 3-view line drawings. As a modeler's reference the book sustains Osprey's considerable reputation of providing superb, exact representations. The color profiles are almost completely accurate but the 3-view line drawings are actually of USAF F-15C/E Eagles instead of the Israeli versions/variants.

The text is thorough and detailed, providing excellent background to Israel's acquisition of the F-15, superb first-person pilot accounts of the IDF/AF's air battles with the Syrian Arab AF (SyAAF) MiGs from the first victory in 1979 to the last (to date) in 1985, and comprehensive correlation of the various F-15 models' mating with the variety of Israeli weaponry. Additionally there are three appendices providing details of IDF/AF F-15 aerial victories, a "kills summary" and Israeli F-15 loss list.

As a history, however, it is limited somewhat by "the Israeli Censorship Bureau, which reviewed and approved this title for publication." Consequently there are small omissions, some repetition of what likely began as previous official misinformation, and occasionally vague generalities in lieu of specific historical details. For example, "the identification of IDF/AF F-15 units by name, rather than by number as is the usual military custom, is a prerequisite of the Israeli Censorship Bureau." Thus 133 *Tayeset* is referred to as the "Double Tail Squadron", 106 *Tayeset* as "Spear Head Squadron" and 69 *Tayeset* as "Hammer Squadron". Additionally there is the annoying error of consistently referring to SyAAF MiG-23MS as the advanced "Flogger G" (NATO Codename) version whereas it was actually the very limited export "Flogger E" (the "Flogger G" is the MiG-23ML and -23P variants). This may have been deliberate misinformation required by the IDF Security Department in order to further enhance the considerable reputation of the IDF/AF by stating their F-15s were battling the best Soviet fighters of the day, or it may be a simple editorial error, but we just don't know.

To the knowledgeable IDF/AF aficionado these may be disappointments or distractions, but as a price for the rich, personal, detailed accounts of the pilots flying the F-15 in combat, they form but a minor reservation. Despite its limitations preventing it from being a complete or definitive history, *Israeli F-15 Eagle Units in Combat* is highly recommended for the wealth of additional and personal detail, and the outstanding two dozen side-view color profiles of IDF/AF F-15s.

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Arab MiG-19 and MiG-21 Units in Combat, by David Nicolle and Tom Cooper. Osprey Publishing (Combat Aircraft No.44), edited by Tony Holmes and Bruce Hales-Dutton, 2004. Softcover, 18.5cm by 25cm, 96 pages. ISBN 1 84176 655 0.

Unfortunately for the average world citizen—and even the uninitiated or unaware aviation enthusiast—what is "known" about the air battles between the IDF/AF and its Arab enemies' air arms comes largely from what the Israelis have told us. It has taken a dedicated, resourceful and diligent enthusiast such as Tom Cooper to discover and unveil the facts from "the other side of the hill". Cooper, a well connected researcher who has produced numerous articles and participated in several books presenting the Arab aviators' perspective of the Mid-East air wars, has teamed up with ultra-prolific military historian (and Osprey author) David Nicolle to produce a revealing book about the air battles against the Israelis, as seen from the cockpits of Egyptian, Syrian, and Iraqi MiG-19s and -21s.

One of the many in Osprey's "combat aircraft" series, this volume follows their familiar formula of (64 pages of) text and (14 pages of) color profiles. The latter are a boon for the small air forces modeler, depicting side views of 5 Egyptian MiG-19s, 17 Egyptian MiG-21s, 7 Syrian MiG-21s and 6 Iraqi MiG-21s (plus 4 pages of captions). In an unusual and greatly appreciated feature there are color top views of four MiG-21s (2 Syrian, 1 Egyptian and 1 Iraqi) previously depicted in side-views. In this way the modeler gets an almost all-round scheme for these four jets. The text abundantly illustrated with 100 black and white photographs (including some gun camera stills showing IDF/AF jets being flamed). While many of the photos are small, grainy, or blurred, others are crisp and detailed, and together they all provide a more than adequate visual presentation of the Arab MiGs and the men that flew (and many died flying) them. Bonus is a two-page section of six color photos with a page of captions. Because of the proliferation of MiG-21 sub-types, two pages of line drawings show its many variants, in 1/72 scale. As a modeler's reference this book is one of Osprey's very best offerings.

The text is typically thorough and detailed, providing excellent background to the three Arab

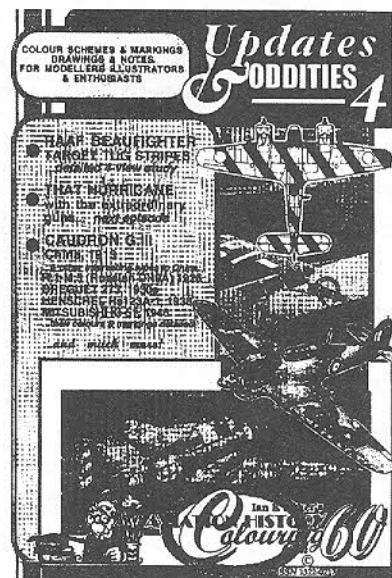
nations' relationship with the Soviet Union in acquiring modern supersonic MiG fighters, and excellent, detailed first-hand descriptions of air-to-air combat against their Jewish adversaries. The authors are to be commended for their comprehensive attempt to correlate Arab claims with Israeli losses, fairly proving that while the Arab air arms were largely outclassed, their fighters were flown with courage and determination and occasionally with surprising success.

The authors have been less successful at digging through the thick security cloaking the Egyptian, Syrian and Iraqi AFs' force structure and organization. They make up for this with educated speculation and informed opinion that fills in most gaps. Balancing this, somewhat, are three pages of appendices supposedly detailing the "Arab MiG Units and Their Dispositions", but even this is fairly general, mentioning few dates, and is blank in spots.

There are very few technical errors—only three that this reviewer noticed—but a nagging one is the repeated assertion that the MiG-21MF carried "twin 23mm GSh-23 guns". This error probably comes from the fact that the GSh-23 was a twin-barrel weapon operating on the Gast Principle (whereby the gasses of from one firing chamber actuated the ejection/loading mechanism of the other); but the MiG-21MF carried only one of these guns.

Overall Cooper and Nicolle have done an excellent job and a great service for the aviation enthusiast and modeler interested in Arab air forces in the Middle East Wars of the Twentieth Century's second half. *Arab MiG-19 and MiG-21 Units in Combat* is a "must have" for any SAFCH member interested in modern Egyptian, Syrian and/or Iraqi air forces and their many air battles with the IDF/AF.

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Updates & Oddities #4 AHCB Number 60,

Because Ian Baker's introductions to his AHCBs are succinct and devoid of the pomposity usually associated with publisher's promotions, I have no qualms about printing his comments about AHCB #60 verbatim:

"Because it is not a commercial publication, AVIATION ISTORY COLOURING BOOK enjoys much greater freedom..."

subjects that editors of the commercial glossies might not consider to be their prime fare. But subjects which nonetheless have much interest and relevance to aviation history and the study of aircraft colours and markings. And so, here is the fourth Updates & Oddities booklet... an interesting (well, I think so!) varied & sometimes off-the-beaten-track bunch of colours-&-markings items readers would otherwise need a barrow-load of references for.

The contents of this issue are:

"RAAF Beaufighter Target Tug" 4 pages including one photo and a 3-page 4 view drawing of the black-and-yellow striped scheme.

"That Mystery Hurricane with those Extraordinary Guns" 3 pages with a drawings of the Hurricane with large-caliber guns mounted above the wing. "Unfortunately, the sole surviving pilot of that time does not recall anything about the aircraft except that it was said that when those two cannon were fired, the aircraft's speed dropped by 60 mph!" Two photos are included of similar guns mounted on Lysanders.

"Interesting Old Photos" 2 pages with 4 photos: US O-47 in Australia; an ex-NEIAF CW-22 in US markings; C-47 'VH-CDB' in US marking; and an RAAF Mosquito is an early rarely seen color scheme.

"Red Chinese V-65 Corsair" one page with a photo and a small 2-view drawing of a Corsair biplane with the Chinese characters for 'Lenin' on the fuselage.

"Bellanca 82-110" 3 page history of Bellanca's 2-engine curiosity including 3 photos (MacRobertson Race 'EI-AAZ' The Irish Swoop and 'NR190M' The Dorthy).

"Correction & Notes Department" 5 pages.

"Some more Chinese Military Aircraft" 11 pages: 'Caudron G.III Chinese Republic' including one photo and a 2-view drawing; 'R.1-M.5 KMT AF, c1925' (Russian DH-9A) one page including a 2-view drawing; 'Chinese designed Aircraft': one page with 2 photos (Ninghai & Training Model No.2); 'Breguet 273, Chinese AF' one page including a 2-view drawing; 'Henschel Hs 123A-1 Chinese AF' 2 pages including a 2-view drawing and a critique of the SAFO article on this aircraft (SAFO #116); 'Mitsubishi Army Type 99 (KI-51), Red Chinese Air Force', c1946 3 pages with one photo and a 2-view drawing of the aircraft the Allies called the Sonia; 'Red Chinese Insignia' one page with drawings of 6 national insignia carried by Chinese Communist military aircraft.

AHCB #60 is another great issue from Ian Baker that will be great use to aviation historian and modelers.

Review copy provided by Ian Baker of AHCB.

[Editor's Note: Because Ian Baker did such a thorough study of the Chinese Hs 123, and since his work supplements that by Rudolf Höfling on the same subject published in SAFO #116, I've taken the liberty to reprinted Ian's text and his drawing of the Chinese Hs 123.]

When the planned 1937 purchase by Portugal of a dozen Hs 123A-1s did not proceed, the RLM offered them to a Chinese purchasing commission in Germany at that time.

Concerned to acquire useful warplanes for China's air force now that war with Imperial Japan had broken out, the Chinese snapped them up with a purchase that included supplies of spares along with a small party of German specialists to oversee the Henschels' assembly and preparation for the

CAF, on location in China. Early 1938 saw the aircraft being assembled and test flown. They were assigned serials 1501 to 1512, the first nine of which became the equipment of the CAFs No 15 Sqdn. which apparently flew them in a number of dive bombing attacks, with some success, upon Japanese ships on the Yangtze River. Little else seems to have been recorded concerning the Henschels' operational career with the CAF apart from noting that the survivors were later retired to the role of trainers with No 6 (Fighter) Sqdn.

References are not very helpful when it comes to the subject of the CAF Henschels' colour scheme, and downright misleading regarding their markings. Of four published colour profiles to hand at the time of writing, two show incorrect serials in the 1600s instead of the 1500s, and all four show sun insignia on fuselage sides, not only contrary to what we know of CAF national insignia marking in the late 1930s, but also contrary to photographic evidence! Possibly one or two survived long enough to have been given the fuselage insignia when this was introduced, probably 1942-43, and a stray photo showing this marking on a Henschel has misled every aviation colour illustrator ever since... they wouldn't have simply made it up, would they? Photos sighted by ARCB do show the CAF Hs 123s with blue and white striped rudders, their serials added to fins in rather small, squared numerals, and no marking of any kind on fuselage sides. Sun insignia are seen to have been carried near the tips of lower wing undersides, as shown in the drawings on the following page. Although it seems quite likely that sun insignia were also applied to upper wing topsides, that must remain uncertain unless any reader can come up with an additional photo confirming this.

In his *Small Air Forces Observer* article, Rudolf Höfling indicates that the twelve Henschels arrived in China factory-finished overall RLM 02 Grau, to which an upper camouflage colour was then added for CAF service. Whilst this is all quite plausible, he then proceeds to describe a camouflage of supposedly dark grey or brown 'worms' or squiggles, impossibly small and fussy, apparently based on one photographic image (also published in that issue) which has, in AHCB's opinion, simply been distorted by someone's over-zealous sharpening-up of a scan. This will usually result in both fine screened dots and/or pixilated points which hitherto had served to smoothly show subtle shifts and variations of mid-tones starting to merge together into solids. Usually. But occasionally it will create an odd, coarsely textured appearance. Merged areas of solid dark tone is something seen increasingly frequently in publications where old photos are reproduced by modern digital means. And this is by no means the first time we have seen the strange textured phenomenon which we believe has misled Rudolf Höfling.

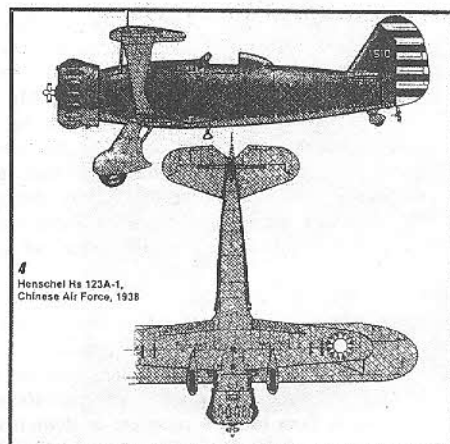
Regarding that camouflage topcoat, the truth of the matter is much more likely to be that a coat of typical dark dull green was lightly sprayed over all uppers and sides. Another photo we have seen certainly appears to confirm this, along with the expected chipping and rubbing which followed. Regrettably it is not clear whether the underside (ie original) colour was more, or less, light-toned. This is central to the question of whether it might have been RLM 02 Grau, or RLM 63 Hellgrau, or even the preRLM Standard DKH L40/52 Hellgrau.

For a long time, c&m historians sought to explain the mid-to-late 1930s pale grey (similar to the RAF's Sky Grey) seen on both civil and various

early Luftwaffe aircraft as being either a colour with no designation, or being one of two quite different variants of RLM 63 Hellgrau. Both of those explanations took no account of the fact that there were aircraft colour finishes around before the Reich air ministry (RLM) established a standardised range of colours for use by manufacturers of aircraft for the new German air force. Those previous colour finishes were normally identified by makers' names and catalogue numbers. There was some carry-over of old colours after the RLM colours started to get established. The continued acceptance for use of some earlier colours, such as that pale grey external finish, along with the integrating of some of those with the new and growing range of official RLM colours, could be a cause for some confusion, not only amongst modern-day researchers.

Something else you will find stated in various older references to Luftwaffe colours is the conclusion that the slate-grey-green RLM colours 03 Grau and 63 Hellgrau were identical. Again, this is not so. But they were so closely similar that the mistake is easy to understand, and would be very easy to make. AHCB has used the colour 'chips' in the *Eagle Editions' Luftwaffe Color Chart* as ultimate arbiter in defining these two colours. That is because Wamecke & Bohm, GMBH & Co, principal wartime suppliers to the Luftwaffe 1933-1945, have certified that the colours in this colour chart have been accurately matched to the company's archive specimens.

As stated previously, the supplying of those Henschels in overall matt 03 Grau is quite plausible, for that finish was intended to be a primer. The colour 63 Hellgrau, a grey just slightly darker and a fraction greener than 03 Grau, was a low-sheen topcoat, used both as an overall finish and as an early upper camouflage colour. For the Henschels to be delivered in overall 63 Hellgrau would also be quite plausible. On the other hand, to learn that they had been received in overall pale grey DKH L40/52 Hellgrau would be equally unsurprising, given they were built in 1937. Without more conclusive evidence it remains impossible to come to a final conclusion here regarding the colours of those CAF Hs 123's undersides, but AHCB considered it was probably a good idea to explain at some length the reason why this is the case.



4
Henschel Hs 123A-1,
Chinese Air Force, 1938

Lockheed Hercules Production List 1954-2008, 25th Edition, Lars Olausson, Ornsuddevagen 234, S-530 32 Satenas, Sweden. E-mail: larsolausson@telia.com. US\$ 22, € 15, £ 10.00.

With this 25th edition, Lars continues his labor of love updating the Hercules production list to c/n 5620, a KC-130J scheduled for delivery to the USMC in April 2010. The production list now occupies 127 pages and includes c/n, model, to, reg del, history/remarks.

The 'history/remarks' section follows each individual aircraft from unit to unit and country to country with remarks on serials and color schemes. The "Government Operators and Owners (past and present fleets)" list the c/n of Hercules operated by 73 countries. If you're interested in the history of the C-130s operated by any country, use the c/n from this section to find the aircraft in the Production List. For example, Iraq operates three C-130E, c/n 3789, 3802, and 3903. From the Production List we find that these were delivered to the USAF in 1963/4 and after serving with a number of USAF units (too numerous to mention here) they were delivered in 2005/06 to the Iraqi AF 23 Sqn as 'YI-302', 'YI-301', and 'YI-303' respectively. As another example, Poland is to receive five C-130E (4414, 15, 26, 28, 35). These are 1971 era aircraft and are still at AMARC (Aerospace Maintenance and Regeneration Center, USAF = MASDC before 1988) being fitted with "new" center-section wings from lower-time aircraft installed.

Another useful section is "Destroyed Aircraft". This lists a/c by date, c/n, and operator and is complete up to 13 August 2006 when Air Algeria's c/n 4880 crashed near Milano. (RAF c/n 5460 is listed as destroyed on 12 February 2007, but the Production List has not been updated on how and where it was destroyed.)

If you're interested in the Hercules or just curious how an individual can collect and disseminate information on the history of all the aircraft of a given type, you owe it to yourself to get a copy of this outstanding book. Don't you wish someone had done this from your favorite aircraft type?

Review copy provided by the author. The review copy is available from the SAFCH Sales Service for \$22.00 airmail included. Or, order directly from the author at the address above. Older volumes are also available from the SAFCH Sales Service at a reduced price.



Messerschmitt Bf 109F - G-4, Jozef And'el. HT Model Special HT Models, Na letisko 49, 05801

Popard, Slovak Republic. E-mail: htmodel@nextra.sk. Website: www.htmodel.sk. ISBN 1335-3667. Price unknown.

On the outside, this book looks rather ordinary; 170 A-4 pages bound between soft covers [Our Australian friend call this a "limp" cover - I rather like this description.] with a color photo of a 109 on a snow-cover airfield. However, once you open it you'll discover something rather unique; there are only three pages of text. The remaining pages are devoted entirely to color side-view drawings, photos, scale drawings, and sketches from "maintenance" manuals. Let's consider each of these in order.

The text, in both Slovak and fluent English describes each sub-type and gives a short summary of each foreign user (Hungary, Italy, Finland, Spain, Bulgaria, Romania, Yugoslavia, Slovakia, Croatia, Japan, Sweden, Switzerland, Soviet Union, Great Britain, Republic of South Africa, USA). All captions to the photos and drawings are also in both Slovak and English.

There are ten pages of color side-view drawings with 5 drawing on each page: Luftwaffe 2-seaters (4), Spain (1), RAF (5), Soviet (3), USAF (4), Italy (3), Hungary (3), Romania (7), Finland (5), Bulgarian (6), Slovakia (4), Croatia (3), and Yugoslavia (1). Not many surprises here except for the Spanish 109F, Yugoslav 109G, overall red US 109F, and overall yellow US 109G. However, the drawings are beautifully done.

The photos are of two kinds: Contemporary b&w photos (12 pages - mostly non-Luftwaffe) and color photos of exterior and interior details of museum aircraft (70 pages).

The remaining pages are devoted to b&w photos and sketches, apparently copies from maintenance manuals and similar contemporary official publications.

HT Model Special on the Bf 108F - G-4 will not be every body's "cup of tea", but if you're into the 109 this would be an interesting addition to your library.



Sebastopol (2e partie): La Chute (janvier à juillet 1942), by Miroslav Morozov. Batailles Aeriennes #38. Lela Presse, 29 Rue Paul Bert, 62 230 Outreau, France. A-4 size. 75 pages. 12.50 € in France.

This is the second in Lela Presse's series on the Crimean Campaign and the siege of Sebastopol. It is in their usual well-researched and attractively-presented monographs on the air combat in World War Two. There is the usual Batailles Aeriennes eclectic coverage of not only the air war but the land and sea actions that influenced the aerial combat.

The following chapter headings will give a good idea of the content: (1) "Le calme avant la tempête" (22 pages, 36 photos). (2) "Le campagne contre les routes de ravitaillement maritime. Le blocus Sébastopol" La guerre des convoys; Les avions torpilleurs entrent en scene!; Action de l'aviation soviétique (14 pages, 19 photos); and (3) L'assaut final" (28 pages, 52 photos).

The French text is supported by three maps (one of the entire Crimean Peninsula and two of the environs of Sebastopol), 109 photos of air, land, and sea action, and 21 color side-view drawings [Bf 109 (6), Ju 87 (1), Ju 88 (1), UT-1 (1), Pe-2 (2), SB (1), Yak-1 (1), I-16 (2), LaGG-3 (1), DB-3 (2), & MBR-2 (1)].

The "Fiche Technique" covers the Junkers 88 A-4 in 6 pages including 9 photos (4 in color and one of a French-built 88), and a 5-view scale drawing.

The two Batailles Aeriennes volumes on the siege of Sebastopol is recommend only for those with a significant interest in this campaign, and then only if they have at least a rudimentary knowledge of the French language.

Review copy provided by Michel Ledet of Lela Presse.



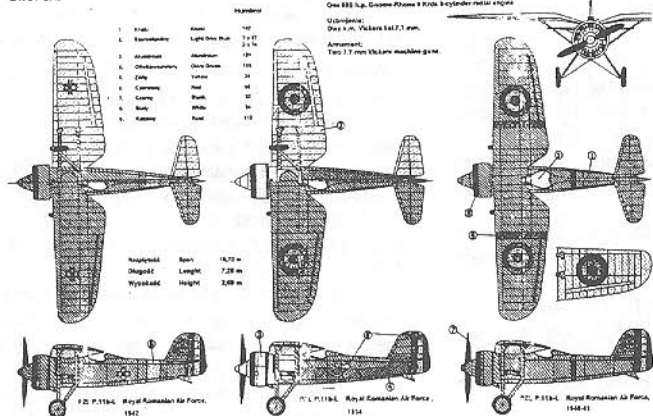
La Bataille d'Angleterre: La Luftwaffe donne l'assaut (2eme partie). Batailles Aeriennes #39.

Lela Presse continues its series on the Battle of Britain with this volume covering the period from 22 July to 6 September 1940. The presentation is the usual excellent Batailles Aeriennes format with French text, a multitude of well-reproduced photos, several orders of battle, and superb color side-view drawings. The aerial activities of each day are covered in detail. A nice touch is the narration for each day begins with a weather report on the conditions on each side of the English Channel.

The large (2 to a page) color side-view drawings are: He 111 (2), Bf 110 (2), Hurricane (3), Spitfire (3), Ju 88 (2), Bf 109 (2), Ju 87 (2), and Blenheim IV (2). The "7 page "Fiche Technique" covers the Bf 110 from the prototype to the Bf 110C and includes 17 photos and two pages of 1/72-scale 5-view drawing.

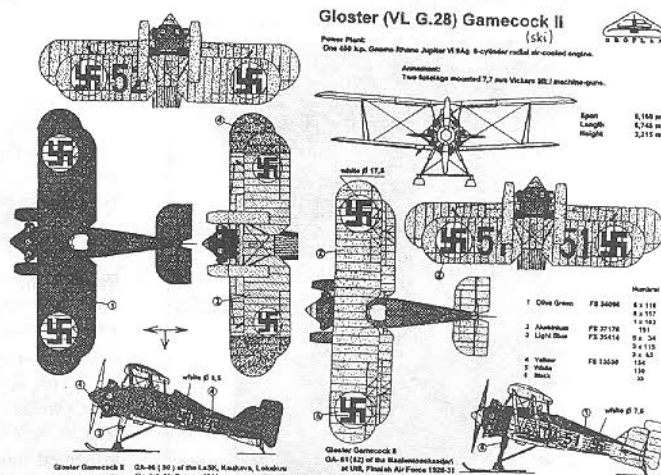
Not much here for the small-air-force fan although there is a color side-view drawing of Hurricane 'RF-E' of 303 (Polish) Squadron. However, if you read French and are into the Battle of Britain, this volume would be a nice addition to your library.

Назад.
Большая загрузка. В это время вы можете увидеть сообщение о том, что вы не можете загрузить файл.



If all you want to do is add a Romanian P-11 to your collection, Mirage produces a 1/48-scale PZL-11c in Romanian markings (Squadron Shop MG48103 for \$22.46.) However, the Broplan P-11b-L will allow you to add something truly exotic to your collection.

Review kit provided by Janusz Brozek of Broplan.



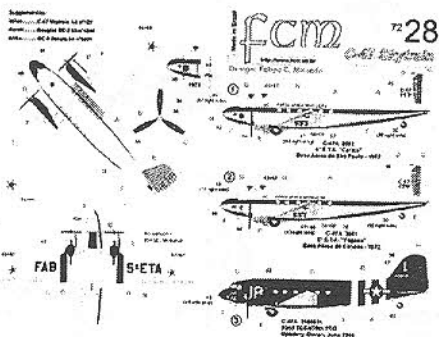
Five new decal sets have just arrived from FCM Brazil. While these naturally feature Brazilian Air Force aircraft there are some very interesting small-air-force subjects included: Tunisian and Chilean Northrop F-5E; Chilean and Colombian A-26 Invaders; Mexican and Portuguese TF-33, and Chilean F-80.

These set are similar to previous FCM decals in format. A beautifully printed decal sheet (140 mm by 190 mm) with all the national insignia, unit insignia, serials, codes, and stenciling needed for the subject aircraft. (A smaller extra sheet is sometimes included when necessary to provided all the needed markings.) The 2-sided instruction sheet is printed in full color with multiple views (port, starboard, top, & bottom) as needed. An extra sheet is included when needed to show the location the stenciling.

Of particular interest to fans of the small air forces are: (1) Brazilian F-5E decorated with the WWII Jambock's ostrich and "Senta a Pua" slogan to commemorate the unit's 60th anniversary. (2) Brazilian F-5E with Disney cartoon character "José Carioca" on the vertical fin. [Older readers will remember José from the Disney film *Saludos Amigos* released during WWII to foster friendship between the USA and Latin America.] (3) A camouflages Tunisian F-5E. (4) A Chilean F-5E in two-tone blue. (5) An all black Chilean A-26 Invader. (6) An all black Colombian A-26 Invader for anti-submarine duties. [See SAFO #21 for coverage of all Latin American Invaders.] (7) An overall light blue gray shark mouth Mexican TF-33A. (8) A Portuguese TF-33A in overall aluminum with dayglo trim. And, (9) A Chilean F-80C camouflages in medium grey, dark green, and matt brown top sides with sky blue undersurfaces.

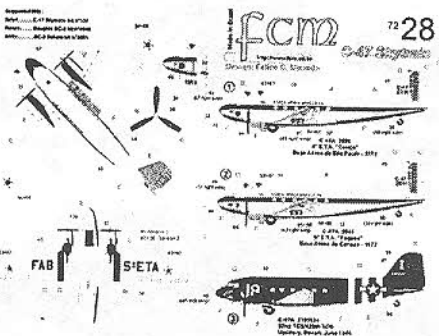
To see the complete instruction sheets for these and other FCM decal; in full-color go to the RCM website: www.fcm.eti.br.

Hannants is selling FCM decals for £ 7.00 (equivalent to US \$13.88). These FCM decals are available from the SAFCH Sales Service for \$10 in the USA or \$12.00 rest of world (row).



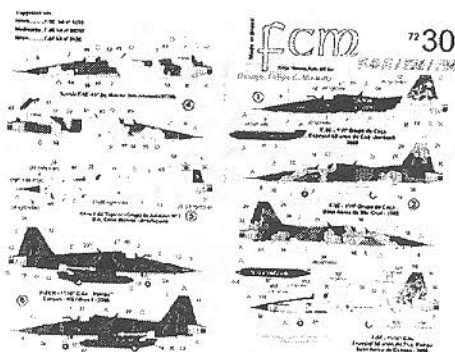
C-47 Skytrain 1/72-scale decals. FCM 72-28.

(1) C-47A, 4th E.T.A. "Caraja" Base Aérea de São Paulo, Brasil 1972. (2) C-47A, 5th E.T.A. "Pegaso" Base Aérea de Canoas, Brasil 1972. (3) USAF C-47A, 92nd TSC/439th TCG Upottery, Devon, June 1944.



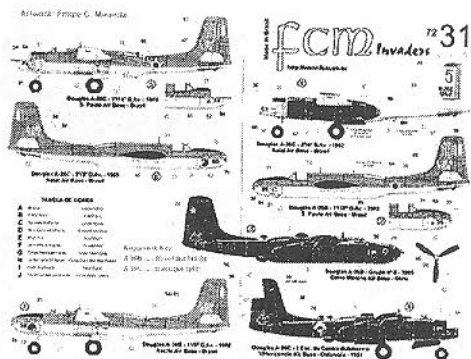
C-47A/AC-47D: 1/72-scale decals. FCM 72-29.

(1) C-47A, 1st G.T. "Gordo" Base Aérea do Galeão, Brasil 1972. (2) C-47A, Grupo de Aviação N°10, Los Cerillos, Chile 1946. (3) USAF AC-47D, 432nd Tactical Fighter Wing, Udorn RTAB 1970.



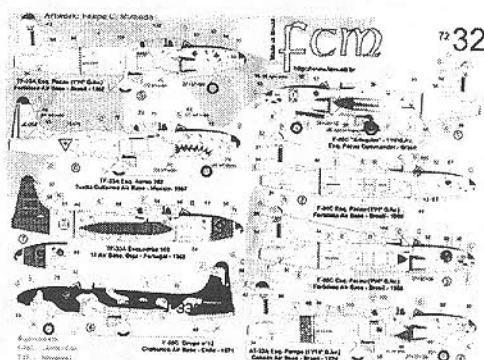
F-5E/EM/FM; 1/72-scale decals. FCM 72-30.

(1) F-5E, 1st Grupo de Caça Especial 60 anos do Esq. Jambock, 2003. (2) F-5E, 1st Grupo de Caça, Base Aérea de Sta. Cruz 1985. (3) F-5E, 1st 14th G.Av., Especial 58 anos do Esq. Pampa, Base Aérea de Canoas 2006. (4) F-5E, 15th Sq. Bizerte, Sidi-Ahamed, Tunisia. (5) F-5E Tiger III, Grupo de Aviação N°7, B.A. Cerro Moreno, Antofagasta, Chile (6) F-5EM, 1st 14th G.Av., Canoas-RS, Brasil 2006.



Douglas A-26 Invaders: 1/72-scale decals. FCM 72-31.

(1) A-26C, 2nd 5th G.Av., Natal Air Base, Brasil 1962. (2) A-26B, 1st 10th G.Av., S. Paulo Air Base, Brasil 1972. (3) A-26B, Grupo n°8, Carro Moreno Air Base, Chile 1965. (4) A-26C, 1 Esq. De Contra-Submarino, Villavicencio Air Base, Colombia 1951. (5) A-26C, Esq. Pacau (1st 4th G.Av.). Fortaleza Base Brasil 1972. (6) A-26C, 2nd 5th G.Av., Natal Air base, Brasil 1969. (7) A-26B, 1st 5th G.Av., Recife Air Base, Brasil 1970.



F-80C/TF-33A; 1/72-scale decals. FCM 72-32.

(1) F-80C "Arlequim", 1st 4th G.Av., Esq. Pacau Commander, Brasil. (2) F-80C, Esq. Pacau (1st 4th G.Av.), Fortaleza Base, Brasil 1959. (3) F-80C, Esq. Pacau (1st 4th G.Av.), Fortaleza Base, Brasil 1965. (4) AT-33A, Esq. Pampa (1st 14th G.Av.), Canoas Air Base, Brasil 1974. (5) TF-33A, Esq. Pacau (1st 4th G.Av.), Fortaleza Base, Brasil 1967. (6) TF-33A, Esq. Aereo 202, Tuxtla Gutierrez Air Base, Mexico 1967. (7) TF-33A, Esquadrão 103, 11 Air Base, Beja, Portugal 1968. (8) F-80C, Grupo n°12, Chabunco Air Base, Chile 1971.

[Ed: SAFCH member Tom Hampton sent me an e-mail asking if the book "Latin American Air Wars and Aircraft 1912-1960" listed on the web site for amazon.com was the same book as "Latin American Air Wars and Aircraft 1912-1969" reviewed in SAFO #130. This seemed to be too much of a coincidence, so I asked the author, Dan Hagedorn, for his comments. As you'll see from Dan's explanation, it is the same book that was reviewed in SAFO and it is available at the amazingly low price of \$37.77, making it not only a "must" buy, but an "affordable must" buy. The retail price is \$59.95.]

"The Amazon posting has been the basis for no end of questions. Way back when Hikoki thought the book would be release in July 2006, they sent a very preliminary cover layout to Amazon so they could start promoting the title. This was even before we had arrived at the final compromise to do the hard-bound/on-line mix, and the publisher was thinking he would need to limit the number of chapters in the book to those up to 1960. After all the dust settled, nothing we could do would get Amazon to change the image or title to match the reality of the actual title and cover. They claimed it would cost them money to do so, even after we volunteered to supply everything they needed. I have written to them repeatedly asking that it be changed, as has the publisher, to no avail. In spite of this, the book is doing very well indeed (was Book of the Month in The Aeroplane Monthly this month - a first for a Small Air Forces subject)." Dan Hagedorn (SAFCH #394), 13125 Pennerview Lane, Fairfax, VA 22033, USA. E-mail: danielhagedorn@cox.net

"I would like to elaborate on Denys Voaden's letter in SAFO # 120 in which he mentions the Chinese Air Force Tupolev SB bomber that

defected to the Japanese-supported Nanking Government in October 1940. There is no indication that this aircraft was ever used by the Nanking Air Force - it was most likely taken over by the Japanese. There were other defectors as well, including a Beech 17, but nothing is known about how, or by whom it was used after its arrival in Nanking. The Japanese-supported Nanking Air Force received and operated Tachikawa Ki. 9 and Japanese-built Avro 504K trainers and probably Tachikawa Ki. 54 transports.

"I have another candidate for a "one-aircraft-air-force" -or perhaps not an air force but at least a state-owned air fleet: Inner Mongolia. Prince The Wang, the ruler of Inner Mongolia, received a single Manku I Type (Fokker Super Universal) in July 1935 and as far as I know they never got any other aircraft."

Lennart Andersson (SAFCH #86), Tiundagatan 52B, S-752 30 Uppsala, Sweden.

"I thought our readers might be interested in this: The Tamil Tigers apparently have an 'air force,' seemingly one or two Zlin Z-142Cs modified to carry bombs. Here's the link to the article, with a number of interesting pictures, including some details on camouflage, markings, and bomb racks: <http://www.tamilnet.com/art.html?catid=13&artid=21668>"

Greg Kozak (SAFCH #1599), 46590 Broadspire Terrace, Sterling, VA 20165, USA. E-mail: kozak@starpower.net

"Thanks you very much for latest SAFO (#120) and especially for your review of our book on the Letov S-328. However, you have made a small mistake in my name; it is **Jakab**. You wrote Jakob, including my address. The correct e-mail address is jakab@jakab.cz."

"I've recently run across a photo of a Namibian Hind on the Internet. This is the first Namibian aircraft I've seen with actual national insignia, this one in the form of the national flag. The Hind image is from myaviation.net, submitted by one Mark Stier. Here's the URL: http://www.myaviation.net/search/photo_search.php?id=01059986&size=large.

"Now, if only I could find a Rwandan Fouga Magister; anything with the old Cape Verde markings; anything from Sao Tome e Principe; and a picture of an Equatorial Guinea MiG-17, I could die happy! (But not until I finish the warehouse of models I plan to build!)"

"By the way, here are a few of the models I have built so far: Seychelles BN-2 Maritime Defender; Guatemalan Boeing P-26; Mongolian Polikarpov I-16; Rhodesian Post-UDI Hawker Hunter; Paraguayan Fiat CR.32; Norwegian Hirdens Flykorps Grunau 9 glider; Red Army of China Air Force Nakajima Ki-43; Bulgarian Post-Axis Bf-109E; Manchukuo Bf-108m

"Here are a scant few of the overwhelming number of projects I have planned: Tongan Beech Super 18; Bahamas Defence Force Cessna 402; Costa Rican Douglas A-24 Banshee; Ethiopian Potez 25; Nicaraguan Government Grumman G-23; Maldivian Mil Mi-8; Gambian Sukhoi Su-25; Tajik Antonov An-2; Montenegrin Aerospatiale Gazelle; Russian Far East Republic Sopwith Strutter; Brunei SIAI SF-260W; Middle Lithuanian Breguet Br.14; Shantung (China) Air Force Junkers F.13; South Arabian Federation Bell 47.

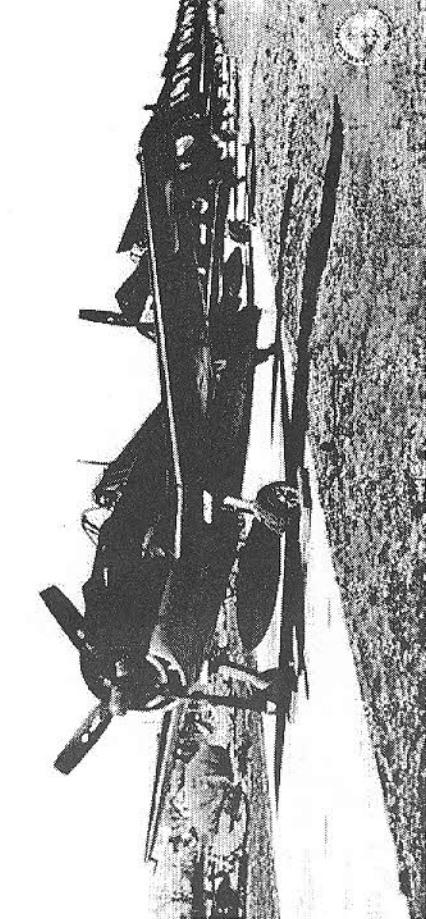
"So you can see why I enjoy SAFO so much!" Greg Kozak (SAFCH #1599), 46590 Broadspire Terrace, Sterling, VA 20165, USA. E-mail: kozak@starpower.net

New from Martin Slides .."Royal Canadian Navy, Aircraft Finish and Markings, 1944 - 1968" is the definitive Royal Canadian Navy aircraft finish and markings book. This volume tells the story in text, photos and drawings of the Canadian Naval Air Arm, from the manning of two Royal Navy escort carriers starting in late 1943 until the demise of the Royal Canadian Navy in 1968. All aircraft types used are covered with text that covers history, production, Canadian use and all known schemes. Also included is detail on the unit histories. The ship section has details of the Canadian involvement with all RCN vessels and bases that operated RCN aircraft. This work is illustrated by over 600 photographs (47 in colour) and 400 drawings (59 in colour). A special all-colour limited edition is also offered. This book is a companion volume to:

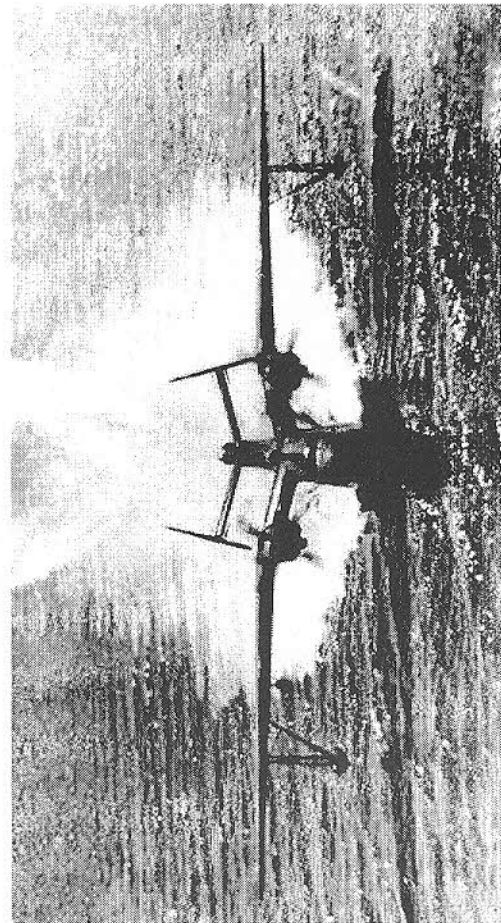
Royal Canadian Air Force, Aircraft Finish and Markings, 1947 - 1968
Canadian Military Aircraft, Finish and Markings, 1968 - 2004
 Prices: (Canadian Dollars - includes express shipping & handling)
 \$78.00 shipped to Canada
 \$82.00 shipped to USA
 \$84.00 shipped to all others (surface)

Martinslides.com or <http://www.canmilair.com/books.htm>
 Martin Slides, 20534 50th Avenue, Langley, B.C., Canada V3A 5P5

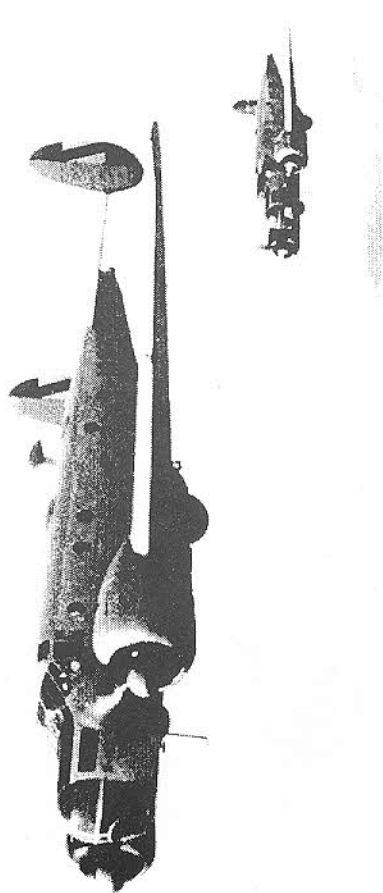




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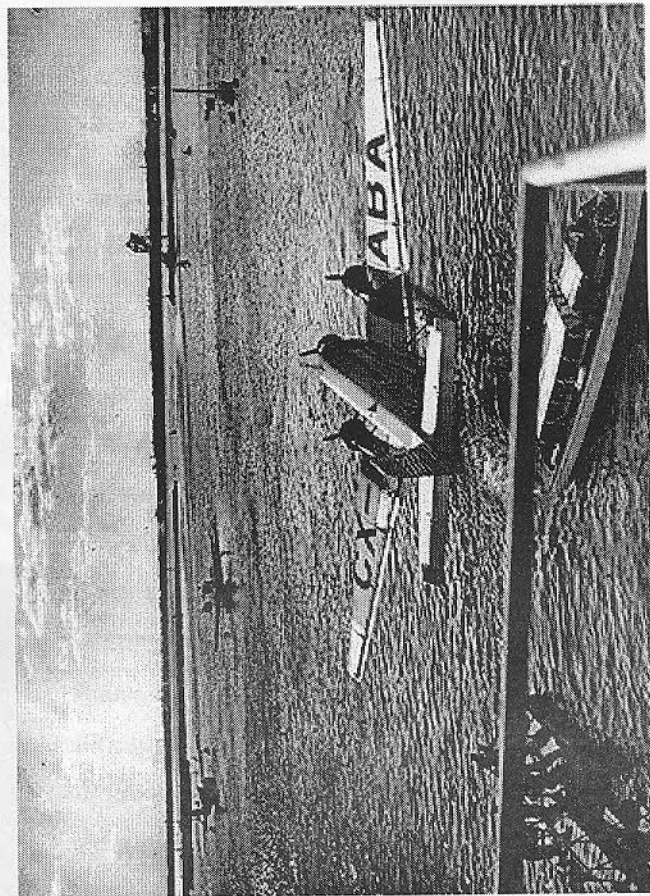
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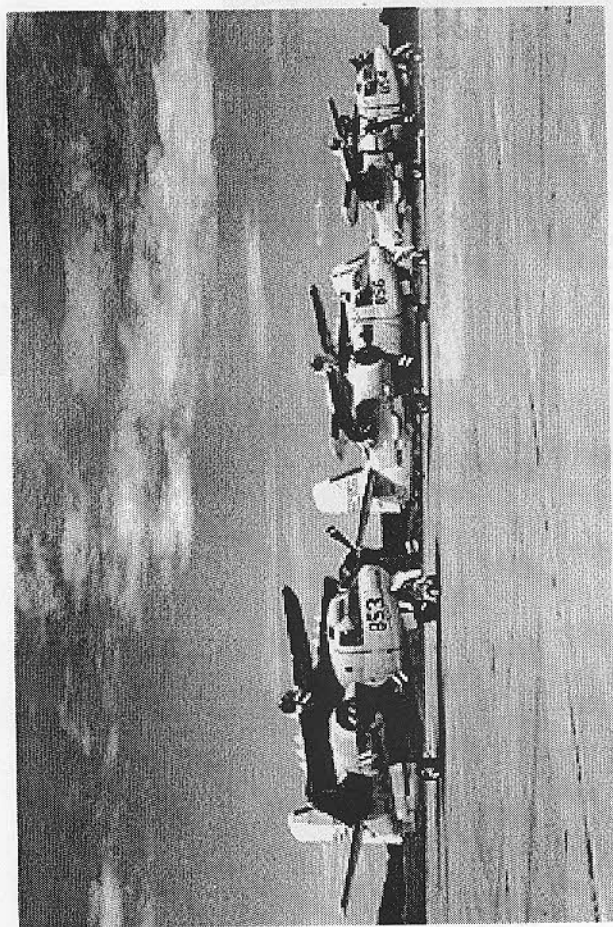
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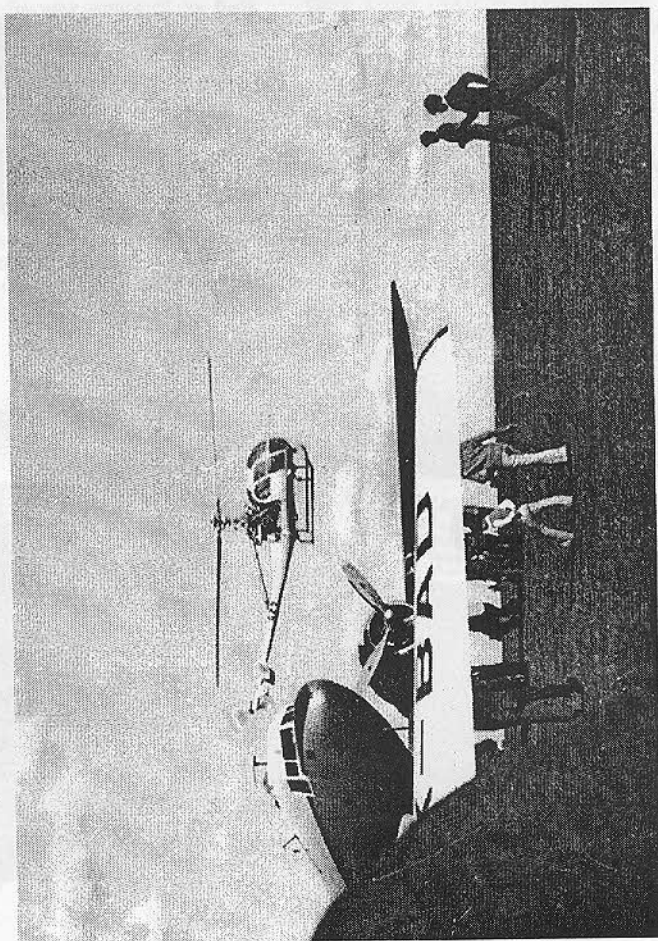
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